BASIC PRINCIPLES *of* DOMESTIC SCIENCE

LILLA FRICH, A. B.

Class _____

Book _____

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BASIC PRINCIPLES *of* DOMESTIC SCIENCE

CONSISTING OF A COURSE OF SEVENTY-TWO ILLUSTRATED LESSONS

BY

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FOREWORD

The aim of this book is to present the basic principles of Domestic Science in a course of related lessons.

Each lesson includes a page presenting the theory and a page outlining the practice, illustrating the principle involved. In other words, the lessons in theory give the "what" and the "why"; the lessons in practice the "how."

The course consists of seventy-two illustrated lessons, some of which are divided into two or three parts to be given as a separate lesson.

The individual recipes, planned specifically for school use, may be used to advantage wherever an individual portion may be desired, or for Invalid Cookery.

UNIFORM

Each girl should be provided with a simple **uniform** for this work, as shown in accompanying illustration. The uniform consists of a **cap, apron** and **sleevelets.** A holder, **hand**towel and a bag in which to carry the uniform back and forth to school is also needed.

This uniform may be made of India lawn, cambric or muslin. It requires about 4½ yards of material for a medium sized girl and 5 yards for a larger girl. The cap should be made to fit the head closely, that all stray hairs may be drawn under the cap. The apron should be made as long as the dress with a bib (see illustration). The sleevelets should come up above the elbow. A rubber band may be placed here and at the wrist, or, it may be finished with a band at the wrist.

THE CLEAN HOUSE IS THE HEALTHFUL HOUSE

We all know that a person does not appear well with soiled hands and face or soiled clothing, but appearance is not the only reason for keeping clean, as there are a great many kinds of dirt which cause serious sickness and even death. Most of the cases of sickness in our country today are caused by tiny living organisms which are called **GERMS** or **MICROBES,** or micro-organisms. They may be classed as bacteria, yeasts and molds

These **GERMS** are so small that they cannot be seen with the naked eye, yet they are always floating about in the air, in the water, in our food, on our clothing and on the bodies of both men and animals. Many of these live even in our mouths and under our nails.

As GERMS grow rapidly in unclean places, it is necessary to keep ourselves and our surroundings perfectly clean in order to destroy them. Anything which destroys these tiny living organisms is called a **disinfectant.** Men have prepared many means of destroying harmful GERMS, but **fresh air, sunlight** and **cleanliness,** called **Natural Disinfectants,** are the most valuable of all.

As we go on with these lessons we will learn more about GERMS. Perhaps you have already learned something about them in your **Physiology** lessons.

NECESSITY FOR CLEANLINESS

One of the most important things for us to learn in this work is that we must be clean.

There are two reasons why we should keep everything neat and clean: One, on account of **looks,** and the other on account of **health.**

CLEANLINESS OF PERSON

Since it is so necessary to keep clean at all times, those who are to work in the kitchen preparing foods should be especially careful to keep themselves clean, and to handle in a perfectly clean way all the food which they prepare.

It is best to wear a plain, cotton dress, short enough to clear the floor, when cooking or doing other housework. The hair should be so carefully arranged that there is no danger of any falling into the food. When sweeping, it should be protected from the dust by covering it with a cap or kerchief.

Before preparing any food, the hands should be washed thoroughly with soap and water; the nails cleaned with a brush and a wooden toothpick, or a regular nail cleaner. The hands should always be washed after touching the hair, pocket handkerchief or anything else unclean. No rings, bracelets, etc., should be worn in the kitchen.

It is a good plan to have a hand towel buttoned on the apron band while at work in the kitchen. The dishes must never be wiped on the same towel which is being used to wipe the hands or face. A tasting spoon should be near at hand, so that a small portion of the food may be put into it from the mixing spoon for tasting purposes. **Never dip a tasting spoon into a dish of food which is to be served.**

SANITARY HOUSEKEEPING

CLEANLINESS OF ROOM

SWEEPING

Object. The object of sweeping is the removal of loose dirt, raising as little dust as possible.

Dirt is anything unclean. Example: **Visible Dirt, (dust, grease, etc.).**

As commonly used, the word includes remnants of anything left where they do not belong, such as sand, bits of paper, animal or vegetable refuse, etc.

Mingled with the dust and dirt is the **Invisible live dust** that is composed of millions of germs,—called bacteria, yeasts, moulds, etc.,—some of them known to cause diseases, such as diphtheria, lock-jaw, consumption, typhoid, grippe, etc.

Implements for sweeping. A long handled soft brush is best for smooth floors, ex.—oiled or waxed floors. The brush or broom covered with a bag made of soft cloth, like Canton flannel or cheese cloth, may be used for painted or polished floors. If the cloth is dampened or oiled it will hold the dust better. A common broom may be used for sweeping ordinary floors. A small brush should be used to clean out the corners. A woolen cloth wrung out of warm water, to which 1 tbsp. ammonia to 1 gallon of water has been added will remove dust from carpets and brighten them wonderfully. A carpet sweeper which is a brush with broom action enclosed in a box, is good for carpets. The box serves as a dust pan. It is a sanitary dirt remover.

Method. Begin at one corner and sweep along the sides of the room with the grain of the wood. Sweep with short strokes, keeping the broom close to the floor. Always sweep from the sides of the room toward the center, unless there is some good reason for doing otherwise.

Collecting. By collecting dust into small piles rather than into one large one less dust will rise. If the dust pan is covered with a damp paper, so arranged that it will stand a little higher at the back of the dust pan, less dust will rise, as damp surfaces catch dust.

Disposal. Burn the sweepings.

Caution. Before beginning to sweep, see that no food is left uncovered in the room.

Care of Sweeping Utensils. The broom should be changed during sweeping and used on alternate sides, as well as on opposite corners. When not in use it should be hung up; the lint and threads or hairs cleaned off every time after using.

Brooms should be washed in hot soapy water once a week to keep them soft and pliable, and to make them last longer.

DO NOT WET the tacks or wires on the broom as they will rust and break.

BRUSHES MAY BE WASHED also. Use cold water instead of hot water, on account of the glue with which brushes are fastened.

Much labor can be saved by habits of neatness.

DUSTING

Object. The object of dusting is the removal of dust from the house. Dusting should not be done immediately after sweeping—about 2 hours should elapse.

What to Use. USE A SOFT COTTON CLOTH. If new cloth is used it should be hemmed or overcast, as it ravels easily and the ravelings might catch and break small articles. Old cloth does not ravel so easily. Cheese cloth makes good dusters. It is inexpensive and dries quickly. Make dusters about ¾ yds. square,—for many purposes smaller ones are better. Have several dusters. Do not use a feather duster, as it only scatters the dust.

Order. 1. Wood-work. 2. Furniture. 3. Movable articles.
Dust the higher places first, then the lower ones.

Method. SPREAD THE CLOTH and gather the dust into it, folding it in as you work. Where there are no articles to be injured by moisture, the cloth should be dampened or oiled, as it will hold the dust plants.

Care of Dust Cloths. Dust cloths should be washed thoroly each time after using. Wash the cloths in warm soapy water, scald in clean soapy water, rinse in clear water. Wring as dry as possible and hang them to dry with the ends pulled evenly. Dry out of doors in the sun if possible. Why? Why scald? When dry, fold and put them in the drawer where they belong. Have a place for everything and everything in its place.

Care of Dish Cloths and Towels.—Dish cloths and towels should be washed, rinsed and dried each time after using; scalded often and dried out of doors when possible. A damp dish cloth breeds disease.

Badly Soiled Cloths, Towels, etc., should be soaked to cleanse them thoroly. Wet the soiled portions, rub them with soap, roll up tightly, place in a pail or pan, cover with soapy water, and let stand one hour or more. Wash in this water, then scald in clean soapy water, and rinse in clear water. Wash and hang up the cloths with the ends pulled evenly together. Try soaking soiled cloths in cold water to which the juice of a lemon has been added. Heat slowly to boiling point. Proceed according to above directions.

NOTES:

WASHING DISHES. CARE OF DISHES

Directions for Dish Washing.

Preparation.

1. Collect and scrape all dishes to be washed.
2. Pile all articles of each kind together,—plates by themselves, the largest at the bottom; silver articles together, and steel knives and forks by themselves, etc.
3. Make ready two pans,—fill one half full of hot soapy water for washing, and the other half full with clear hot water for rinsing.

NOTE.—Work is made much easier if saucepans and other cooking dishes are washed as soon as used. If soaking is necessary, fill with cold water as soon as emptied.

Soaking Dishes.

COLD water should be used for dishes which have been used for milk, eggs and starchy foods.

HOT water should be used for dishes used for sugary substances, and for sticky, gummy substances, like gelatine.

GREASY DISHES of all kinds, including knives, are more easily cleaned if first wiped with soft paper. This paper may be used for kindling.

Order.

1. Glassware. 2. Silver. 3. Cups and saucers. 4. Plates. 5. Platters, vegetable dishes, 6. Cooking utensils (if not washed first).

Method.

1. Wash dishes in hot soapy water. Cut glass is liable to crack in hot or cold water, so warm should be used. 2. Rinse in clear hot water. 3. Drain. 4. Wipe dry with clean tea towels. In putting dishes away, hang up what can be hung, and place other dishes upside down to keep out dust.

General Instructions.

In putting glasses into hot water, they should be dipped in edgewise, so that both the outside and inside are heated together. This will prevent their cracking.

The handles of knives, if wood, bone, ivory or pearl, should not be put into the water, as they are liable to split. They should be wiped with a wet, and then with a dry cloth.

A soft, thin dish cloth is better for glass and silver, but coarser, thicker material may be used for other dishes. Wash every part, outside and inside, of every dish, with the cloth. If the dish is too small to allow the hand to go in, as in some pitchers, a mop may be used.

NOTE.--Greasy dish cloths and towels furnish a most favorable soil for germ growth. A greasy dish cloth hung up in a dark place is dangerous. No damp article should be stored in the dark. Dish cloths and towels should be scalded and dried in the sun.

NOTES:

Correct Measurements are absolutely necessary to insure successful results in cooking.

FLOUR, MEAL, POWDERED and CONFECTIONERS' SUGAR and SODA should be sifted before measuring. MUSTARD and BAKING POWDER often settle in the cans, therefore should be stirred to lighten. SALT lumps easily and the lumps should be broken before measuring. These should be put into the measure with a scoop or spoon and not packed hard. See Fig. 1.

ALL MATERIALS ARE TO BE MEASURED LEVEL, the leveling to be done with a case-knife. See Fig. 2.

To measure BUTTER, LARD, etc., pack solidly into the cup or spoon, and make level with a knife. If the fat is very hard, cut it into small pieces before measuring.

To measure a spoonful of any DRY SUBSTANCE, dip the spoon into the substance, fill it, lift it, and level it with a knife.

For HALF a spoonful divide lengthwise. See Fig. 3.

For a QUARTER of a spoonful divide the half crosswise. See Fig. 4.

For an EIGHTH spoonful divide the quarter diagonally. See Fig. 5.

Less than ONE-EIGHTH of a teaspoonful is considered a few grains.

A CUPFUL of liquid is all the cup can hold.

A TEA or TABLESPOONFUL of liquid is all the spoon can hold.

ABBREVIATIONS.

tsp	teaspoonful
tbsp	tablespoonful
c	cupful
pt	pint
qt	quart
oz	ounce
lb	pound
min	minutes
h	hour

EQUIVALENTS.

3	tsp	equal	1 tbsp.
*4	tbsp	equal	¼ c.
2	c	equal	1 pt.
2	pts	equal	1 qt.
4	qts	equal	1 gallon
4	c (about) of flour	equal	1 lb.
2	c. of sugar	equal	1 lb.
*16	tbsp. of dry ingredients	equal	1 c.
12	tbsp. of liquid	equal	1 c.

FIGURE 1.

FIGURE 2.

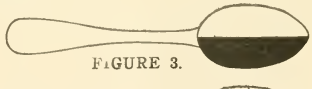


FIGURE 3.

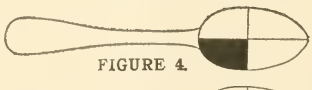


FIGURE 4.

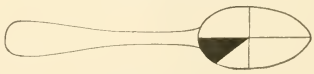


FIGURE 5.

Next to measuring comes CARE IN COMBINING.

THREE WAYS are considered:—Stirring, Beating, Cutting and Folding.

To Stir.—Mix by using circular motion; widening the circles until all is mixed.

To Beat.—Turn ingredients over and over, continually bringing the under part to the surface.

To Cut and Fold.—Combine one ingredient with another ingredient or mixture by two motions with a spoon, a repeated vertical downward motion, known as CUTTING, and a turning over and over of mixture, allowing bowl of spoon each time to come in contact with bottom of dish, called FOLDING.

BY STIRRING, ingredients are mixed.

BY BEATING, a large amount of air is enclosed.

BY CUTTING AND FOLDING, air already introduced is prevented from escaping.

WATER

DEFINITION.—Water is an odorless, colorless, tasteless, transparent liquid.

COMPOSITION.—Pure water is composed of two parts hydrogen, and one part oxygen.—H_2O.

SOURCES.—(1) Lake. (2) Rain. (3) Spring. (4) Well. (5) River.

USE.—Water is necessary to life and health. It constitutes about three-fourths of the weight of the human body.

USES IN THE BODY.—(1) To quench thirst. (2) To regulate temperature. (3) To aid digestion. (4) To thin blood. (5) To assist circulation. (6) To stimulate nervous system. (7) For medicinal purposes. (8) To help carry off waste matter.

USES WITHOUT THE BODY.—(1) For cooking purposes. (2) For cleaning purposes.

TEMPERATURES.—Boiling, 212 deg. F. Simmering, 185 deg. F. Hot, 100 deg. F. plus Warm, 92 deg.-100 deg. F. Tepid, 65 deg.-92 deg. F. Cold, 32 deg.-65 deg. F. Freezing, 32 deg. F.

IMPURE WATER IS DANGEROUS, and like dust contains germs.

BOILING THE WATER ten minutes will kill the germs. The water is then sterilized. To sterilize means to free from germs. To restore the flavor of boiled water re-introduce air by pouring the water several times from one pitcher to another. Freezing does not kill the germs,—only checks the growth.

WATER STANDING in lead pipes over night, or any length of time, may take up some of the lead and therefore it should be drawn off before any water is taken for use.

NEVER USE the water drawn off the hot water faucet for cooking or drinking purposes.

HOT WATER is more likely to take up the particles of lead than cold water.

THE BODY needs about two quarts of cold water daily, and about half of that is supplied in the food.

ALL FOOD SUBSTANCES contain more or less water, no matter how dry they may appear.

MANY FRUITS AND VEGETABLES contain a large amount of water, with just enough solid matter to give them form. Today we are going to use water as a cooking medium.

NOTE.—Heat expands, cold contracts water; exception: water expands just before freezing

NOTES:

Boiled Cauliflower and Carrots

VEGETABLES

VEGETABLES are chiefly valuable for the pure water and mineral matter they contain, which act as a tonic to the system.

They also contain cellulose or wood-fibre, which stimulates the digestive organs to carry on their work. The amount of cellulose or waste in vegetable foods keeps up the motion of the intestines. The cellulose is useful in stimulating the intestines so that their contents are kept constantly moving. Some vegetables contain starch, sugar and other substances. Peas, beans, and lentils, are tissue builders and may be used in place of meat, eggs, etc. Lettuce and celery have a juice that is soothing to the nerves. Celery if taken in large enough quantities is considered a cure for rheumatism. Spinach contains iron, etc. Therefore it is well to eat many different kinds of vegetables in order to supply the body with the different kinds of mineral matter and acids they contain.

General Rules for Cooking Vegetables.

(1) Wash thoroly. (2) Pare, peel or scrape, if skins must be removed. (3) Soak in cold water until ready to cook—(to keep crisp or to freshen if wilted or to prevent discoloration). (4) Cook in freshly boiling, salted water until tender. (5) Drain off the water; shake over fire; serve hot with SEASONINGS.—To 1 c. cooked vegetables, add 2 tbsp. butter, ½ tsp. salt, and 1-16 tsp. pepper, or with a White Sauce.—See Lesson 7. Vegetables may be reheated over hot water in a double boiler.

Notes.

Allow 1 tsp. salt to 1 qt. water.

Use enough boiling water to cover vegetables.

Salt may be added when vegetables are put in, except in the case of delicate green vegetables, as peas, spinach, etc., when it should not be added until the vegetables are nearly done.

To preserve the color of green vegtables cook uncovered.

Cabbage, onions and turnips should be cooked uncovered in a large quantity of water; by changing the water once or twice during the cooking, much of the strong odor and flavor may be lost. If dried bread be tied in a cheese cloth and placed on top of vegetables it partially absorbs the odor.

Water in which vegetables have been cooked is called Veg. Stock, and may be used as a basis for soups, sauces, etc.

Peel onions under cold water to avoid irritating the eyes. Wash all the utensils in cold water without soap to remove onion odor.

Winter vegetables should be kept in a cool, dark, dry place.

Fresh vegetables may be washed and kept on ice in a clean piece of cheesecloth. Be sure that the cloth is washed and scalded frequently.

Time Table for Cooking Vegetables in Water.

Potatoes .....25-30 m.	Onions .....46-60 m.	Parsnips .....30-45 m.
Carrots .....35-45 m.	Cabbage .....45-60 m.	Green Peas.....30-45 m.
Turnips .....45 m.	Cauliflower .....20-30 m.	String Beans .....1-3 hrs.
Beets (young).....45 m.	Asparagus .....20-40 m.	Lima Beans..1 hr. or more
Beets (old).....3-4 hrs.	Spinach .....30-45 m.	Green Corn .....12-20 m.
Tomatoes .....1-3 hrs.	Celery .....20-30 m.	Rice .....20-45 m.

WATER AS A STERILIZING MEDIUM

FOOD PRESERVATION

To PRESERVE means to save from decay by the use of some preservative agent.

Certain Bacteria cause the decay of foods.

Food is preserved when it is subjected to such treatment as will kill the germs or check their growth and make them inactive.

As we know that moderate heat, food and moisture are favorable conditions for their growth, opposite conditions will hinder their growth,—that is, to keep food cold,—dry it,—or cook it.

The methods usually used are:—

1. **Cold Storage.**—Freezing checks the growth of bacteria as long as they are in a frozen condition. MEAT and FISH may be kept indefinitely while frozen. They should not be allowed to thaw out until shortly before using, as they are more susceptible to the action of bacteria, and spoil more quickly than similar foods which have not been frozen. EGGS and FRUIT may be kept several months by cold storage, in dry air just above the freezing point. VEGETABLES are kept in cold storage. MILK is sent frozen in large quantities, etc.

2. **Drying.**—Bacteria require moisture, so food is dried in order to prevent their growth. Dried fruits contain more water than dried meats or fish, but this small amount remains safe by the antiseptic properties of the acids in the fruits, and are also preserved by the natural sugar in fruits.

3. **Salting.**—Salt has a tendency to absorb moisture from the bacteria, so they cannot thrive in food that is corned or salted. Salt does not kill bacteria but prevents their growth.

4. **Preserving with Sugar.**—Sugar, like salt, has a tendency to absorb moisture from the bacteria, therefore they cannot grow in a thick syrup, though molds may grow on top.—Example: jams, marmalades, jellies, etc.

5. **Smoking.**—Meats and fish are usually salted, then smoked, (the products of combustion are antiseptic). These antiseptics are germ killers, but do not penetrate the flesh, remaining on the outside, so disease germs on the inside are not killed. It is therefore unsafe to eat uncooked meat in any form.

6. **Pickling.**—Few kinds of bacteria can grow in acids, so vinegar is used for pickling.

7. **Chemical Treatment.**—Many of the antiseptics used on food, called "preservatives," are harmful. These are often used in canning factories, and by dealers in milk, meat, and other foods.

8. **Canning.**—Canning is preserving sterilized food in sterilized, air-tight jars. The temperature of boiling water, sometimes a lower temperature, kills the bacteria. Canning is considered the best method of preserving food.

NOTES:

CANNED VEGETABLES

DIRECTIONS FOR CANNING VEGETABLES.

Canning should be done in a well-kept room—one as free as possible from dust and dirt.

Select only sound and fresh vegetables.

Examine jars by filling them half full with water, adjust rubbers, screw on tops, turn upside down and see if they are air-tight.

How to sterilize jars, etc. Sterilize the jars and covers by putting them edgewise into a pan containing cold water. Heat slowly to boiling point and let boil ten minutes. Keep the jars and covers in the hot water till ready for use.

Dip rubber bands into hot water, but do not injure them by boiling. New rubbers should be used each season.

Prepare the vegetables. Wash, pare or peel, and cut in pieces, if necessary.

Fill the jars with the vegetables, cover to overflowing with water that has been boiled, salted and cooled.

Place the sterilized rubbers on and adjust covers, but do not screw them down—the steam must have an outlet.

Place the jars on a rest, or on a folded cloth, or on several layers of paper in a large kettly or wash boiler. Add enough cold water to reach the neck of jars. Cover the kettle; heat gradually to boiling point, and boil according to time-table.

Take jars out, screw down the covers securely. Place jars upside down.

NOTE.—If full jars are desired, immediately after steaming the covers may be taken off and the jars filled to overflowing with boiling salted water. Then readjust covers and screw down securely.

TIME TABLE.

KIND	METHOD	TIME
TOMATOES	Sterilization or Canning	One hour
STRING BEANS	" "	Three hours
PEAS	" "	Three to four hours
CORN	" "	Four to five hours
ASPARAGUS	" "	Three hours May be boiled five minutes before putting in cans.

WATER AS A CLEANING AGENT

Water is the most important of all cleaning agents. It dissolves more substances than any other liquid.

Water for domestic use is either hard or soft, according to the amounts of soluble salts which it contains. These are usually compounds of lime or magnesia. Water not naturally soft should be softened by boiling or the addition of a softening agent, ex.—washing soda, borax, ammonia, potash or soda lye.

If washing soda is used do not add more than 2 ounces to a tub of water.

Too much should not be used, as it injures the hands and any fabric which may be washed in it.

If borax is used, not more than ¼ pound to a tub of water should be used.

Ammonia is considered one of the best agents for softening water.

CARE OF REFRIGERATOR, ETC.

The Refrigerator should be kept scrupulously clean in every part.

Anything spilled should be wiped up at once. The refrigerator should be examined daily so that no food is left to spoil and cause bad odors. All waste and overflow pipes become foul with grease, dust, lint, etc., if not well cared for, and often fill the whole house with contaminated air, thereby endangering health.

No hot food should be put into the refrigerator.

No food with strong odor should be put into the refrigerator, unless necessary, and then it should be tightly covered.

Milk and butter absorb odors quickly, and therefore should be kept tightly covered.

Once a week, at least, every part of the refrigerator should be washed with borax, soda, or ammonia water, using a small mop or whisk broom and a skewer.

To clean the pipe thoroly, use a cloth over a wire. Wipe as dry as possible, and leave refrigerafor open to dry thoroly.

If possible, dry all movable parts in the sun or near the fire.

Care of the Sink.—The SINK should be kept scrupulously clean at all times.

Neglect causes bad odors, attracts roaches, etc., and often causes disease.

It is advisable to have a fine strainer over the regular sink strainer to catch crumbs or anything that might clog the pipe. After pouring soiled water into the pipe, pour clean water into it so that clean water may be left in the trap. Wash all parts of the sink with soapsuds or 1 tbsp. sal-soda added to the water (sal-soda prpepared by using ½ cupful of soda to ½ gallon of water), or ½ can of Babbit's potash dissolved in 1 qt. of water. Should sink pipe become clogged, pour into waste pipe ¼ lb. copperas dissolved in 2 qts. boiling water. Repeat if necessary.

Scrubbing Boards and Tables.—Remove all crumbs, etc., and wipe off the table with a wet cloth. Use no more water than necessary. Dip a brush into water, then into Dutch Cleanser, or rub sapolio on it. Scrub with the grain of the wood. Thoroly rinse off the suds. Rinse the cloth, wring it thoroly, and wipe the table or board as dry as possible. Let no dirt collect in seams or cracks; remove with a skewer.

Grease spots may be removed by covering them with borax or ammonia, allowing it to stand a few hours before scrubbing with sand soap.

NOTES:

PEAS AND CARROTS.

1 c. cubed carrots	2 level tbsp. butter	1-16 tsp. pepper
1 c. cooked green peas	½ level tsp. salt	

Wash, scrape and cut young carrots in cubes. Cook in boiling salted water until soft.

Drain, add the peas and season with butter, salt and pepper.

The carrots may be cut into carrot cups, by cutting thick slices and scooping out the inside before cooking. Serve the peas in the cups.

SUCCOTASH.

1 c. sweet corn	1 or 2 tbsp. butter	⅛ tsp. pepper
1 c. cooked shelled beans	½ tsp. salt.	

Mix corn and beans. Heat. Season. Serve hot.

One cup hot milk may be added.

CORN OYSTERS.

1 c. sweet corn (drained)	¼ c. flour or ⅓c. breadcrumbs	1-16 tsp. pepper
1 well-beaten egg	¼ tsp. salt, or more, to taste	

Mix in order given. Shape to imitate oysters. Cook on a well-greased griddle. Brown on one side; turn and brown on the other. This mixture may be baked. The yolk and white should then be beaten separately. Green pepper may be added to it.

SPANISH FRITTERS.

1 c. corn	½ c. flour	2 eggs beaten separately
¼ c. milk	½ tsp. baking powder	1 Spanish pepper

Mix in order given, folding in the beaten whites. Fry spoonfuls in deep fat.

STUFFED TOMATOES.

6 medium-sized tomatoes	2 tbsp. melted butter	1-16 tsp. pepper
1 c. cracker or soft bread crumbs	1 tsp. salt	

Wash tomatoes. Cut thin slice from stem end of each. Take out seeds and pulp and drain off most of the liquid. Mix the crumbs, butter and the seasonings; add to the tomato pulp. Add more seasonings if necessary. Sprinkle inside of tomato cup with salt and pepper. Refill the tomatoes with the mixture; replace tops. Place in a buttered pan, sprinkle with buttered crumbs and bake twenty minutes in a hot oven.

Chopped meat, oysters, green peppers, sweet corn or celery may be added to the stuffing.

WATER AS A CLEANING AGENT—Continued

CARE OF UTENSILS

TINWARE.—Wash tinware in hot, soapy water. Remove grease and food waste from all seams with a wooden tooth pick or skewer or a stiff brush. If discolored, boil out in water containing washing soda. Polish with whiting or tripoli.

IRONWARE.—Wash ironware in hot, soapy water. Use a wire dish cloth to remove food that sticks or is burnt on. Pumice stone or sapolio may be used in removing rough spots. After washing and wiping, dry thoroly by placing kettles on the back of the range or in the sun before putting away. Before using a new iron kettle grease inside and outside and let stand two days; then wash in hot water to which a lump of cooking soda has been added.

Iron and Steel not in use should be rubbed with an oily substance—oil, lard or vaseline.

Rust, if not too deep, can be removed from iron or steel with kerosene.

BRASS and COPPER.—Wash in hot soapy water. Rub with flannel dipped in lemon juice or vinegar. Then apply rotten-stone and oil and polish with a dry cloth. Or apply putz pomade (which is a mixture of whiting, oil and acid) with a woolen cloth, rub off with a second woolen cloth and polish with a third one.

AGATE and ENAMEL WARE.—Wash in hot soapy water. Clean seams with a wooden tooth pick or skewer. Rough places may be removed with a piece of pumice stone—ordinary stains with sapolio or Dutch Cleanser. A small scrubbing brush may be used in cleaning enamel ware.

STEEL KNIVES and FORKS.—Dampen a cork, a piece of woolen cloth or cotton waste and dip into pulverized sapolio, Bristol brick, tripoli, or Dutch Cleanser. Rub the blades or tines briskly, first on one side, then on the other, until stains are removed. Dip quickly into hot soapy water and dry at once.

SILVERWARE.—Dampen a soft cloth, dip into fine whiting and apply to the silver. When the whiting has dried, rub it off with a soft cloth and polish with a chamois skin. Rub egg-stained spoons and other badly tarnished articles with salt before washing them in water to which ammonia has been added. The chlorine of the salt combines with the tarnish and forms a compound soluble in ammonia.

STOVE or RANGE.—Wipe off with soft paper. Use sapolio to rub off rough spots. To keep it black and clean, wipe it daily with a few drops of kerosene on a cloth.

ZINC.—Clean zinc with a little kerosene rubbed on with a flannel cloth, or with electro-silicon on a damp cloth. Polish with dry flannel.

NOTES:

DRY TOAST.—Cut stale bread into ¼-inch slices. Crust may or may not be taken off. Put slices in a wire toaster, lock toaster and place over a clear fire to dry, holding some distance from coals. Turn and dry other side. Hold nearer and color to a golden brown. Toast, if piled compactly and allowed to stand, soon becomes moist. Toast may be buttered at table or before sending to table. Toasted bread is considered to be more easily digested than fresh bread, because in toasting some of the starch is changed into dextrine (double sugar). Heat of 320 degrees F. is necessary to dextrinize starch.

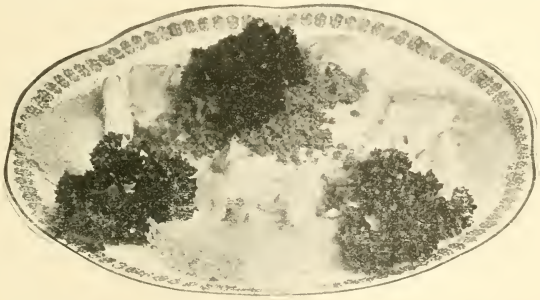
WATER TOAST.—Dip the toasted slices into boiling salted water (½ tsp. salt to 1 c. boiling water), using a fork. Spread with butter and serve.

MILK TOAST.—Dip the toasted slices into WHITE SAUCE. When soft remove to serving dish. Pour remaining sauce over all. For six slices of toast use one pint White Sauce.

THIN WHITE SAUCE—

1 pt. scalded milk	2½ tbsp. cold water	2 tbsp. butter (if liked)
2½ tbsp. flour	½ tsp. salt	

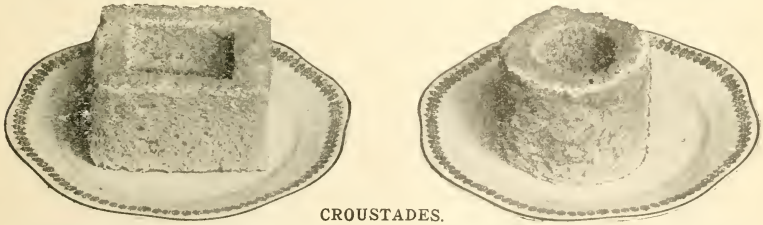
Mix the cold water and flour until perfectly smooth. Add more cold water until thin enough to pour gradually into the hot milk. Cook, stirring all the time, until thickened. Boil 5 minutes. Add butter and salt. If cooked in a double boiler, cook 20 minutes in order to thoroughly cook the starch.



EGGS A LA GOLDEN ROD.

EGGS A LA GOLDEN ROD.—Prepare milk toast, adding the chopped whites of three hard cooked eggs to the sauce. Force the yolks thru a strainer and sprinkle over the top. Garnish with parsley.

CREAM TOAST.—Dip the toasted slices into hot cream. Put on serving dish and pour hot cream over the slices.



CROUSTADES.

CROUSTADES OF BREAD.—Cut stale bread into four-inch slices. Cut in diamonds, squares or circles. Remove centers by cutting with a knife, leaving baskets or cases. Fry in deep fat or brush over with melted butter and brown in oven. Fill with creamed fish, meat or vegetables.

All pieces of bread should be saved and used. Keep pieces of stale bread by themselves in a jar or covered bowl. Large pieces are best for toast. Dry remnants of bread in a warm oven until they are crisp but not brown. Crush them with a rolling pin (kept for this purpose), sift and keep them in a jar. These are called dry bread crumbs, and are useful for crumbing, croquettes, cutlets, fish, meat, and scalloped dishes.

Stale bread crumbs not dried are suitable for puddings, griddle cakes, omelets, and some scalloped dishes.

WATER AS A MEANS OF CARRYING AWAY WASTE MATTER

WATER CARRIAGE SYSTEM—PLUMBING

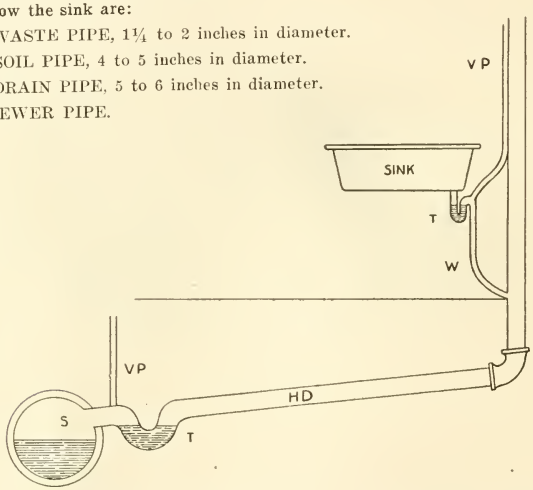
In cities where there is a generous supply of water, waste water, refuse, etc., are carried through pipes by means of water into a sewer. This is called a water-carriage system of drainage. It requires fixtures. See illustration.

SINK.

Construction.—Enameled iron, porcelain or soapstone are the best materials for a sink. The drainboards should be of the same material. Wood is not desirable, as it is highly absorbent and hard to keep clean. The drainboards should slope toward the sink, and the sink should slope towards the waste pipe.

Parts below the sink are:

1. WASTE PIPE, 1¼ to 2 inches in diameter.
2. SOIL PIPE, 4 to 5 inches in diameter.
3. DRAIN PIPE, 5 to 6 inches in diameter.
4. SEWER PIPE.



The whole system of pipes is called the sewerage of the house; the contents are called the sewage, and the main big pipe that receives all the sewage is called the sewer.

The pipes carry off decomposable matter, and the results of decomposition are gases. In this case they are called sewer gases.

The waste pipe has a bend in it called a TRAP. This is filled with the last water poured into the sink. The object of the bend is to retain a sufficient quantity of clean water to prevent gases from escaping up from the drain into the house.

The water the bend contains is called a WATER SEAL. The clean water in the bend acts as a seal, preventing gases from returning.

Good plumbing requires that the trap be near the fixture, that as little space as possible be left unprotected.

Always have clean water in the trap. Why?

If the sink is left unused for any length of time, the water seal may evaporate, and allow gases to escape into the house.

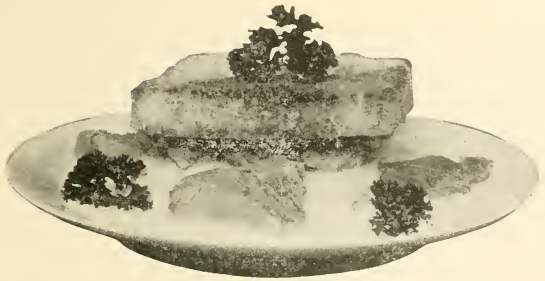
A house left vacant should be thoroly aired before it is re-occupied.

Keep pipes free from grease, soapy deposits, etc., by using hot water and soda or potash generously and frequently

Every trap should have a clean-out under the water seal.

Draw a diagram of a sink, properly connected with the sewer.

Sanitary cleanliness requires the cleanliness of the individual, of his possessions and his surroundings.



HOT MEAT SANDWICHES.

RECIPES FOR LEFT-OVERS OF MEAT.

Hot Chicken Sandwich.

½-inch slices toast.
Cooked chicken (slices or small pieces).
WHITE SAUCE or thickened chicken stock.
Heat the slices of chicken in the sauce.
Season. Celery salt and chopped parsley may be added if liked.
Put the meat and sauce between the slices of toast.
Garnish with parsley and olives.

Hot Roast Beef Sandwich.

Slices of toast.
Slices of cooked roast beef. Brown sauce.
Put the meat and sauce between the slices of toast.
Left-overs of MUTTON may be used in the same way, with tomato sauce or mint sauce.

Club House Sandwich.

1. Toast.
2. Lettuce leaves.
3. Salad dressing.
4. Slices of roast chicken.
5. Pan broiled bacon.

Arrange on slices of toast the lettuce leaves, salad dressing, chicken and bacon in layers.
Repeat and cover with toast, having three layers of toast in all.
Garnish with pickles, radishes, or parsley.

Cheese Canapes.

Toast circular pieces of bread.
Sprinkle with a thick layer of grated cheese.
Season with salt and cayenne.
Place on a baking sheet and bake in oven until cheese is melted.
Serve at once.

Tomato Sauce.

2 c. canned tomatoes	Bit of bay leaf	½ tsp. salt
1 slice onion	4 cloves	2 tbsp flour
	6 pepper corns	

Boil first 6 ingredients 15 minutes; strain.
Thicken by adding the flour which has been mixed with cold water to make a smooth, thin paste. Cook 5 minutes.

AIR

COMPOSITION.—Pure air is a mixture, composed of two gases—oxygen (one part) and Nitrogen (four parts) N_2O.

Air in Its Relation to Life.

THREE THINGS ARE ESSENTIAL TO LIFE—**Air, Water and Food.**

AIR is the most important, since we can live only a few minutes without it.

The air we breathe carries oxygen into the lungs, keeping the blood red and pure. The blood conveys it to every part of the body, where it unites with the carbon, producing heat by slow burning. It also produces the energy which makes the muscles move and the organs do their work.

The burnt air contains carbon dioxide and is exhaled. If you should sit in a very small room that had no fresh air supply, how would you feel after the fresh air had become impure? Why?

The air becomes impure in a room by the carbon dioxide given off from the lungs, from lamps, from gas stoves, and in a small quantity from coal stoves (altho ... this case most of the carbon dioxide passes into the chimney).

Anything which uses up the oxygen in a room, or which allows too much breathed air to remain in the room, makes the air impure.

Decaying vegetables and water that have been allowed to stand for a length of time in cellars may fill the room with impure air and cause disease.

Habitual breathing of impure air is the cause in many cases of pneumonia and consumption.

Public buildings are usually ventilated thru flues which let in the fresh out-of-door air and let out the impure air.

What is meant by VENTILATION? Why is GOOD ventilation necessary?

REMEMEER: To frequently fill your lungs with fresh out-of-door air. To supply your rooms night and day with fresh air.

NOTES:

GERMAN TOAST

GERMAN TOAST.

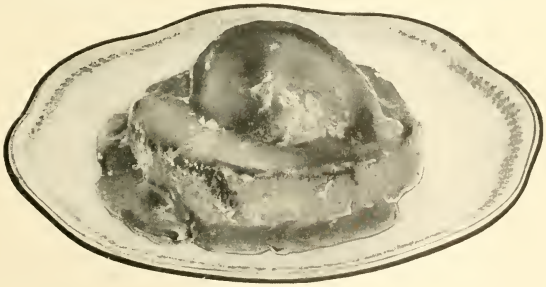
3 eggs ½ tsp. salt 2 tbsp. sugar. 1 c. milk 8 slices stale bread

Beat eggs slightly, add salt, sugar and milk. Strain into a shallow dish. Soak bread in mixture until soft. Cook on a hot well-greased griddle; brown on one side; turn and brown on the other side. Serve for breakfast or luncheon. May be served as a dessert with Lemon Sauce. Slices of bread may be put in layers in a buttered baking dish, covered with the egg mixture and baked in a moderate oven. This we call Bread Pudding.

LEMON SAUCE

½ c. sugar 1½ c. boiling water 1½ tsp. lemon juice
1 tbsp. corn starch 1 tsp. butter

Mix sugar and corn starch; add boiling water gradually, stirring until thickened. Boil 5 minutes. Add butter and lemon juice. Serve.



PEACH CANAPES

3 peaches 1 tbsp. corn starch diluted 6 slices German toast
½ c. sugar with ¼ c. cold water (circular pieces)
1 c. water Rind of 1 lemon

Peel and cut the peaches in halves; cook them until tender in a syrup made of the sugar, water and lemon rind. Remove the peaches and thicken by cooking the syrup with the cornstarch mixed with the cold water. Serve the peaches on the toast, with the syrup.

BAKED APPLES

8 apples ¼ tsp. cinnamon Rind of 1 lemon
½ c. sugar ¼ tsp. nutmeg (if liked)

Wash, wipe and core apples. Place them in a baking dish. Mix the seasonings; fill the cavities. Cover the bottom of the dish with boiling water and bake in a hot oven until soft, basting with the syrup in the dish. Pears may be baked in the same way.

BAKED BANANAS

6 bananas 2 tbsp. butter ⅓ c. sugar 2 tbsp. lemon juice

Remove the skins and cut in halves lengthwise. Put in a shallow granite pan or an old platter. Cream the butter and sugar and add lemon juice gradually. Spread bananas with half the mixture. Bake 20 minutes in a slow oven, basting during baking with the remaining mixture.

AIR—Continued

AIR IN ITS RELATION TO FIRE.

Combustion or burning is the uniting of two or more elements to form a new compound. Combustion always produces heat, and if rapid, sometimes light. Flame is burning gas.

In order to have a fire three things are necessary.

1. **Fuel,** or something to burn.
2. **Heat,** to make it hot enough to burn or reach its kindling point.
3. **Air,** to keep it burning. The oxygen is the necessary part to keep the fire burning.

Experiment with a lighted candle and a lamp chimney.

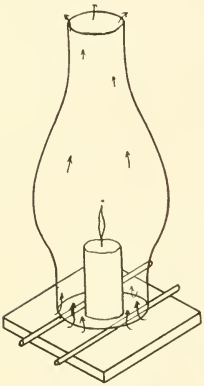


Figure 1

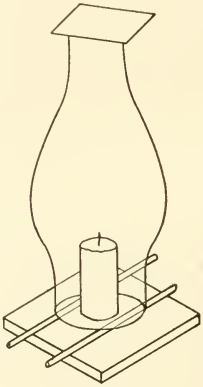


Figure 2

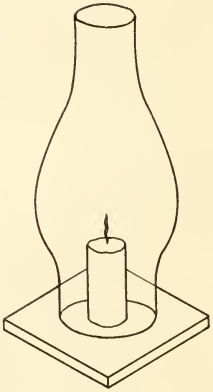


Figure 3

Fuel is any matter used to produce heat by burning, ex.—wood, coal, charcoal, etc.

Fuels are composed mostly of carbons and hydrogen. When fuel is heated enough to burn, the oxygen of the air UNITES with the CARBON in the fuel forming a gas called CARBON DIOXIDE; it also unites with the hydrogen forming watery vapor; these pass through the chimney. After all the combustible matter is burned ashes remain.

Fires are usually enclosed in iron boxes called Stoves, Ranges and Furnaces.

These must have two openings, one to let in the air and one to let out the burnt air (gas, watery vapor and smoke). The slides that control these openings are called dampers.

All stoves have a third damper called the check damper. (See Lesson 11A.)

In cooking stoves there is a fourth damper which allows the hot gases to flow around the oven, before reaching the chimney.

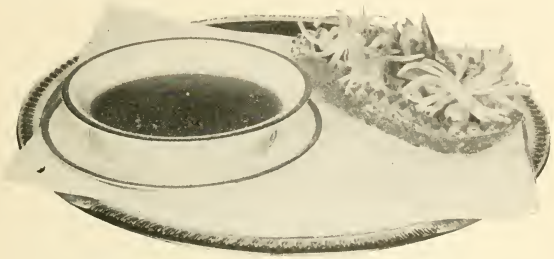
NOTES:

SOUPS

TOMATO SOUP

1 can tomato	Bit of bay leaf	1 slice onion	2 tbsp. butter
1 pt. water	4 cloves	1 tsp. salt	2 tbsp. flour
12 peppercorns	1 tsp. sugar	⅛ tsp. soda	

Cook first seven ingredients 20 minutes. Strain. Add salt and soda. Mix the flour with an equal amount of water until smooth, add more water until thin enough to pour. Stir soup while adding gradually the flour mixture, called thickening, boil 5 minutes. Strain, add butter, serve with croutons.



TOMATO SOUP WITH CURLED CELERY

Croutons

CROUTONS.—Cut ⅓ in. slices of buttered stale bread into cubes; brown in oven.

VEGETABLE SOUP

⅓ c. carrot	1½ c. potato	5 tbsp. butter, or a	1 tsp. salt
⅓ c. turnip	½ c. onion	piece of suet	⅛ tsp. pepper
½ c. celery	2 qts. water	½ tbsp. parsley	

Cut vegetables into cubes. Cook the vegetables, except the potatoes and parsley, 10 minutes, in the butter or suet. Add water and potatoes and cook one hour. Add parsley and seasonings. A soup bone may be added.

PEA SOUP

1 c. dried split peas	½ onion	2 tbsp. flour	1½ tsp. salt
3 qts. cold water	4 in. cube fat salt pork	⅛ tsp. pepper	

Pick over peas and soak over night; drain, add cold water, pork and onion. Simmer 3 or 4 hours, or until soft. Rub through a sieve. Add the flour mixed with cold water to the soup; boil 5 minutes, stirring constantly. Add seasonings.

BAKED BEAN SOUP

3 c. cold baked beans	1½ c. stewed and strained	2 tbsp. flour
3 pts. water	tomatoes	1tbsp. Chili sauce
2 slices lemon	2 tbsp. butter	Salt. Pepper

Put first four ingredients in saucepan; bring to boiling point and simmer 30 minutes. Rub through a sieve, add seasonings, thicken with the flour, add butter, and serve with crisp crackers.

Celery stalks, celery salt, or the dried leaves of celery may be added.

STOVES

Ovens are as individual as people, and stoves form habits of their own.

A COOKING STOVE is a large iron box set on legs.

A Cooking Stove has the following parts:

1. FIRE-BOX, to contain fuel.
2. GRATE, which forms the floor of the fire-box.
3. DAMPERS. (a) Creative. (b) Check. } To regulate draft.
   (c) Oven, (d) Chimney. } To direct current of hot air.
4. ASH-PAN, to receive ashes, cinders, and clinkers.
5. STOVE-PIPE, to carry off smoke (unburned carbon) and gaseous products of combustion.
6. OVEN, FOR FOOD.

Distinction between a stove and a range:

A STOVE is movable, and usually has one oven and two doors.

A RANGE may be either built into the wall (set), or stand out in the room (portable).

Locate the dampers and study their uses, as shown in the following illustrations.

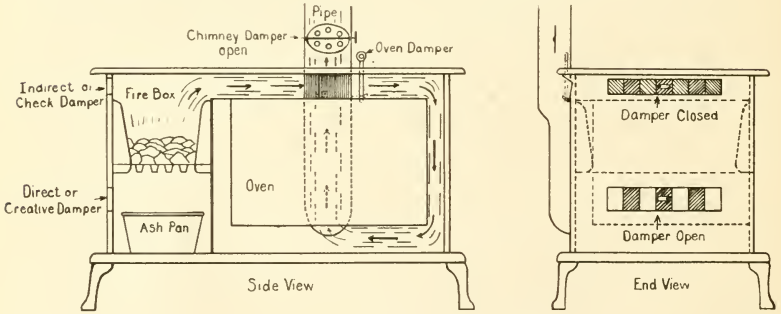


DIAGRAM OF RANGE WITH OVEN DAMPER CLOSED.

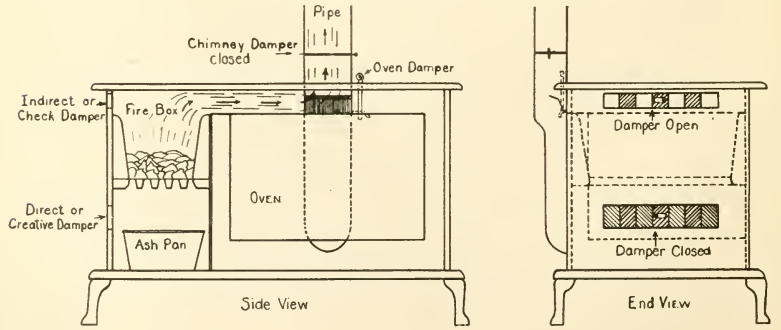


DIAGRAM OF RANGE WITH OVEN DAMPER OPEN

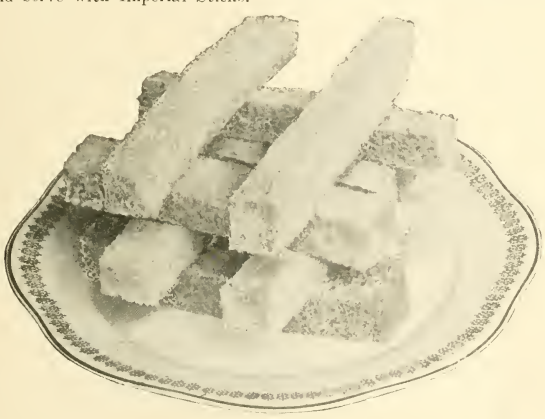
A PUREE is made by adding the pulp of a cooked vegetable to milk or cream. The milk is thickened (white sauce) with flour or cornstarch in order to bind together the solid and liquid parts of the soup.

LEFT OVERS of vegetables or vegetables too old to serve whole may be used in making the cream soup. By forcing the pulp through a strainer the hull and coarse fiber is removed. A cream soup makes a very nourishing dish. Why?

CREAM OF POTATO SOUP

3 potatoes (medium)
1 qt. milk
2 slices onion
2 tbsp. butter
2 tbsp. flour
1½ tsp. salt
¼ tsp. celery salt
⅛ tsp. pepper
Few grains Cayenne
1 tsp. chopped parsley

Cook potatoes in boiling salted water until soft; rub through a strainer or potato ricer. Scald milk with onion, remove onion and add milk slowly to potatoes. Thicken by adding the flour which has been mixed with cold water until smooth. Thin it out with a little more cold water and add to soup, stirring until thickened. Boil 5 minutes. Add butter and seasonings and serve with Imperial Sticks.



Imperial Sticks

Imperial Sticks.—Cut buttered slices of bread into strips and brown in oven.

CREAM OF TOMATO SOUP

3 c. milk
1 slice onion
4 tbsp. flour
½ can tomatoes
1 tsp. sugar
¼ tsp. soda
3 tbsp. butter
1 tsp. salt
⅛ tsp. pepper

Scald milk with onion, and thicken milk with flour diluted with cold water, stirring constantly until thickened. Cook tomatoes with sugar 15 minutes, add soda and rub through sieve. Combine mixtures and strain. Add butter, salt and pepper. Serve with

Crackers and Cheese.—Arrange zephyrettes in pan; sprinkle with grated cheese and bake until cheese is melted.

CREAM OF PEA SOUP

1 can or 1 pt. peas
1 tsp. sugar
1 pt. cold water
1 qt. milk
1 slice onion
2 tbsp. flour
1 tsp. salt
⅛ tsp. pepper

CREAM OF CORN SOUP

1 can or 1 pt. corn
1 pt. cold water
1 qt. milk
1 slice onion
2 tbsp. flour
1 tsp. salt
⅛ tsp. pepper

CREAM OF CELERY SOUP

3 c. celery
1 pt. boiling water
1 qt. milk
1 slice onion
4 tbsp. flour
¾ tsp. salt
Few grs. pepper

Boil vegetables until soft in the water. Force vegetables through a potato ricer or a coarse strainer. Add vegetable pulp, water and seasonings to the milk thickened with flour: 2 to 4 tablespoonfuls of butter may be added.

NOTE.—The butter in the Potato Soup, etc., recipes may be omitted. If it is undesirable to boil the milk, cook in a double boiler 20 minutes after thickening has been added.

HOW TO BUILD A FIRE

LAYING THE FIRE

1. Free the grate from ashes. Turn the grate back into place. Remove the covers.
2. Cover the grate with twisted pieces of paper.
3. On these lay sticks of soft wood cross-wise.
4. Put two shovelfuls of coal on top of the wood.
5. Cover the top of the range, open all the dampers except the oven and the check damper.

STARTING THE FIRE

6. Light the fire by applying a lighted match under the grate to the paper or shavings. (If the stove is to be blackened, do it now.)
7. When the wood is all ablaze, add coal until the fire-box is level full. The fire-box should never be kept more than three-fourths full.
8. When the blue flame disappears, half close the creative damper. When the coal is burning well, close the creative damper almost entirely, and half close the chimney damper.

HOW TO MANAGE A FIRE

For a steady hot fire, rake out ashes with a poker. Fill the fire-box three-fourths full. Open the lower front creative damper and chimney dampers. Close oven and check dampers.

When the lower part of the coal is red, and the top still black, close the dampers.

Always have black coals on top.

To heat the oven, *open the oven damper and half close the chimney damper.

To check the fire slightly, half open the slide in the check damper.

To check decidedly, open the check damper.

To keep a fire over night, fill the fire-box with coal, close oven, lower front and chimney dampers, and open the check damper half way.

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*The oven damper, when properly turned, forces the heated air around the oven, before it escapes through the chimney.

The dampers differ slightly in different ranges, but the purpose of each is the same.

NOTES:

GENERAL RULES

The crumbs used for scalloped dishes may be made from the inside of stale bread, rubbed or grated, or from dried bread which has been rolled. The crumbs must be seasoned and added to the melted butter.

Place the moistened food material in two layers and the crumbs in three layers, using one-third of the buttered crumbs on the bottom of the baking dish, then half the food, then crumbs, food, and the remainder of the crumbs on top.

All baking dishes must be buttered or greased.

Melt butter in the mixing bowl over hot water,—add crumbs to the butter.

Mix butter and crumbs with a fork.

To 1 c. soft crumbs use 1 tbsp. butter, ⅛ tsp. salt.

To 1 c. hard crumbs use 4 tbsp. butter, ½ tsp. salt.

Few grs. pepper in dishes when pepper is used.

SCALLOPED TOMATOES

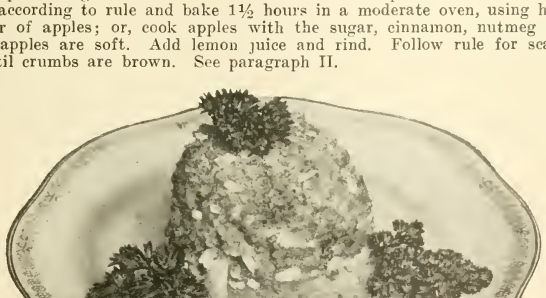
3 c. stewed tomatoes
6 cloves
1 tsp. salt
¼ tsp. pepper
¼ tsp. onion juice
1 tsp. sugar
2 c. soft crumbs
1 c. cracker crumbs
6 tbsp. butter

Cook tomatoes with seasonings. Follow rules for scalloped dishes.

SCALLOPED APPLES

3 c. apples cut in eighths
½ c. sugar
¼ tsp. cinnamon
¼ tsp. nutmeg
¼ c. water
½ lemon, juice and rind
2 c. soft bread crumbs
2 tbsp. butter

Prepare according to rule and bake 1½ hours in a moderate oven, using half the water on each layer of apples; or, cook apples with the sugar, cinnamon, nutmeg and 1 cup of water, until apples are soft. Add lemon juice and rind. Follow rule for scalloped dishes and bake until crumbs are brown. See paragraph II.



SCALLOPED EGGS

4 hard cooked eggs
¾ c. or 1 c. cold chopped meat
1½ c. buttered hard crumbs
1 pt. white sauce (Lesson 7B)

Chop the eggs, and follow the rule, alternating the eggs and meat, or add chopped eggs and meat to the sauce. Follow rules for escalloped dishes. See paragraph II.

SCALLOPED OYSTERS

1 pt. oysters
⅓ c. oyster liquor or milk
1½ c. cracker crumbs or stale bread crumbs
½ c. melted butter
1 tsp. salt
⅛ tsp. pepper

Follow rules for scalloped dishes, using half of the liquor on each layer of oysters. Bake 30 minutes in a hot oven. Never allow more than two layers of oysters for scalloped oysters. If three layers are used, the middle layer will be underdone, while the other two are properly cooked.

AIR IN ITS RELATION TO COOKERY

In Lesson 3B we learned that by BEATING a mixture, a large amount of air is enclosed, and by CUTTING and FOLDING, the air already introduced is prevented from escaping.

Air at 70 degrees F. expands to about double its volume, at the temperature of a hot oven.

When a mixture is beaten thoroughly it is filled with air bubbles, and when this is cooked or baked in a hot oven, each air bubble becomes enlarged by the heat; the heat also dries the mixture and forms a wall around each expanded air bubble, firmly fixing it in place.

In egg mixtures, like omelets, the heat coagulates the albumen in the egg at a low temperature; this firmly fixes the bubbles in place, leaving a light and porous mixture.

All egg mixtures should be cooked at a moderate temperature. Example: Sponge Cake, Angel's Food, etc.

A batter containing a large amount of water and baked in a hot oven, puffs up by the steam produced. The steam is formed when the liquid within the mixture is sufficiently heated. Water in changing to steam is expanded more than 1,700 times, and consequently puffs up the mixture. Example: Cream Puffs, Pop-overs, etc.

Review lessons up to date.

I

Breaking an Egg

II

Slipping white into a plate and yolk into a bowl

III

Beating white, enclosing air

NOTES:

PART I

PLAIN OMELET

4 eggs
½ tsp. salt
Few grains pepper
1 tbsp. butter
4 tbsp. hot water

Separate eggs. Beat yolks until thick; add salt, pepper and hot water. Beat whites until stiff and dry, and fold them into the first mixture. Heat omelet pan and butter sides and bottom. Turn in mixture. Cook slowly. When well puffed and delicately browned underneath, place on grate of oven to finish cooking on top. The omelet is cooked if it is firm to the touch when pressed with the finger. If it clings, it is not cooked. Fold and turn on a hot platter. Serve with 1½ cups thin white sauce (Lesson 7B).

OMELET WITH MEAT AND VEGETABLES

Cook plain omelet. Add cooked vegetables or meat to the white sauce or fold them into the omelet mixture.

OYSTER OMELET

Fold in oysters cut in halves to plain omelet mixture. Follow directions given in Plain Omelet recipe.

PART II

POP OVERS

1 c. flour
¼ tsp. salt
⅞ c. milk
2 eggs
½ tsp. melted butter

Mix salt and flour; add one-half the milk, beat until smooth. Add remaining half of milk, well-beaten eggs and butter. Beat 2 minutes with Dover egg beater. Turn into hot buttered iron gem pans, and bake about 35 minutes in a hot oven. Canned peach halves may be dropped into mixture in pan just before baking. The mixture will cover the peach. Serve with peach sauce.

Creamed meat or vegetables may be served in Pop-over cases.

CREAM PUFFS

½ c. butter 1 c. boiling water 1 c. flour 4 eggs

Put butter and water in saucepan and place over the fire. As soon as it begins to boil add flour, all at once, and stir briskly, until the mixture leaves the side of the pan. Remove from the fire, cool, add one unbeaten egg, add another, beat; and so on, until the four have been added. Drop by spoonfuls onto a buttered pan about two inches apart. Bake in a moderate oven from 25 to 45 minutes, or until puffs are firm and crusty to the touch. Cool. With a sharp knife make a cut and fill with Cream Filling or Whipped Cream. Cream puff mixture may be fried in deep fat. Creamed vegetables and meat or fish may be served in cream puff cases.

CREAM FILLING

¾ c. sugar 1 tsp. salt 2 c. scalded milk
⅓ c. flour 2 eggs 1 tsp. vanilla

Mix dry ingredients; add eggs slightly beaten, and pour on gradually the scalded milk. Cook 15 minutes in double boiler, stirring constantly until thickened. Cool and flavor.

WHIPPED CREAM

1 pt. heavy cream ⅓ c. sugar 1 tsp. vanilla

Beat the cream with a Dover egg-beater until thick; add sugar and vanilla. Beat until thoroly mixed. Cream should be cold and the bowl containing it placed in a pan of ice water while beating. If beaten too long it will separate.

CHOCOLATE ECLAIRE

Shape cream puff mixture 4½ in. long by 1 in. wide. Bake about 25 minutes in a moderate oven. Split and fill with cream filling. Frost with chocolate frosting.

CHOCOLATE FROSTING

Mix 4 tbsp. boiling water or scalded cream with 1 square melted chocolate, add enough confectioner's sugar gradually to make it of right consistency to spread. One yolk of egg may be added and ½ tsp. vanilla.

APPLE SNOW

¾ c. apple pulp Whites 3 eggs Powdered sugar

Pare, quarter and core 4 sour apples. Steam until soft and rub through sieve. There should be ¾ c. apple pulp. Beat the whites of eggs until stiff; add gradually apples sweetened to taste. Pile lightly on a dish and serve with custard sauce. One tbsp. lemon juice may be added.

PRUNE WHIP may be made by substituting ¾ c. pulp of steamed prunes.

CUSTARD SAUCE

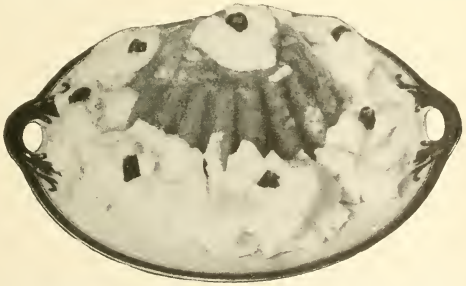
1½ c. scalded milk ¼ c. sugar ½ tsp. vanilla
Yolk 3 eggs ⅛ tsp. salt

Beat the yolks slightly, add sugar and salt; stir constantly while adding gradually the hot milk to the yolk mixture. Return to the double boiler. Cook in the double boiler, stirring constantly until the mixture thickens, and a coating is formed on the spoon. Chill and flavor. If cooked too long, custard will curdle. Should this happen, beating the mixture with a Dover egg beater will restore the smooth consistency. When eggs are scarce, use two yolks and ½ tbsp. cornstarch.

TAPIOCA CREAM PUDDING

1½ tbsp. minute tapioca, or ¼ c. pearl tapioca ⅓ c. sugar
2 c. scalded milk ¼ tsp. salt
2 eggs 1 tbsp. vanilla

Pick over tapioca and soak one hour in cold water to cover. Drain, add to milk and cook in a double boiler until tapioca is transparent. Mix the yolks with the sugar and salt. Combine by pouring hot mixture slowly into egg mixture. Return to double boiler and cook until it thickens while stirring constantly. Fold in whites of eggs beaten until stiff; remove from range, chill and serve.



Sago Pudding, with Whipped Cream and Candied Cherries

SAGO PUDDING

½ c. sago ⅓ c. sugar
2 c. scalded milk ¼ tsp salt
2 eggs 1 tsp. vanilla or grated rind one lemon

Pick over sago and wash, drain, add to milk, and cook in a double boiler until sago is transparent. Mix the yolks with sugar and salt. Combine mixtures by pouring hot mixture slowly into egg mixture and cook in a double boiler until thickened. Fold in the stiffly beaten whites; remove from range. Flavor and mold. Serve cold with

GRAPE SAUCE

½ c. sweetened grape juice ½ c. water 1 tbsp. lemon juice
1 tbsp. cornstarch

Heat the grape juice and water; add the cornstarch diluted with ¼ c. cold water. Boil 5 minutes, stirring until thickened; add the lemon juice. If not sweet enough, add sugar to taste.

One pound grapes usually makes 1 pt. juice; 1 c. sugar is usually added to 1 pt. of grape juice.

FOOD

Lifeless food makes life tissue.

FOOD is anything that nourishes the body.

Food is necessary for repair, growth and energy. The food is to the body what wood, coal or other fuel is to the locomotive engine. Let us make use of this familiar comparison:

The Locomotive Engine	The Human Body
1. Material structure	1. Material structure
2. Fuel—coal, wood, etc.	2. Food.
3. Air	3. Air
4. Water	4. Water
5. Waste products	5. Waste products

Neither the body nor the engine can do its work without food or fuel and plenty of fresh air.

The fuel in the fire-box of the engine is burnt by the aid of the oxygen in the air uniting with the carbon in the fuel. The heat produced changes the water into steam, and the expansion of this steam produces motion.

The human body moves from place to place and is kept warm because a slow fire is burning within us. The food taken into the body is burnt or oxidized in nearly every part of the body. Without fresh air and food every day the slow fire would go out and we would gradually waste away and die.

Every part of the steam engine is always wearing out, but it cannot repair itself.

The body, too, is always wearing out, but it can repair itself. Every beat of the heart, every movement of a muscle, etc., all lead to waste. What we eat and drink takes the place of what is used up.

The young and growing must take in a little more than what is used up. The food we eat is turned into flesh, bone, hair, etc., besides furnishing heat and energy.

The food must be digested, absorbed and assimilated. The blood carries the absorbed food to every part of the body.

The engine gets rid of its waste in the form of ashes, cinders, and gases.

The body gets rid of its waste products by different channels, breath, perspiration, etc.

The engine will not do its work unless all parts are kept in working order.

Each and every part of the human body, in order to do its work properly, must be kept in a good condition, used in the proper way, and kept clean inside and outside.

NOTES:

FRUIT TAPIOCA AND SAGO PUDDINGS

APPLE

¾ c. tapioca
Cold water to cover
2½ c. boiling water
7 sour apples cut in eighths (cooked)
¼ tsp. salt
½ c. sugar
1 tbsp. lemon juice
Few grs. nutmeg and cinnamon

PEACH

Rind ¼ lemon
½ c. tapioca or sago
Cold water to cover
¾ c. boiling water
2 c. canned peaches and syrup
¼ tsp. salt
½ c. sugar
1 tbsp. lemon juice
Rind ¼ lemon

STRAWBERRY

½ c. tapioca or sago
Cold water to cover
1⅓ c. boiling water
1½ c. strawberry pulp or 1½ c. canned strawberries
Sweeten to taste
⅛ tsp. salt
Rind ¼ lemon

DIRECTIONS.—Wash and soak the tapioca and sago one hour or more in enough cold water or fruit juice to cover; add the boiling water, cooked fruit, fruit juices, salt, sugar and lemon rind. Cook in a double boiler until tapioca or sago is transparent. Mold, chill and serve with cream and sugar. Minute tapioca may be used, and this requires no soaking.

The cooked fruit, when large fruit is used, may be used to line the mould, and only the fruit juices added to the tapioca mixture.

The stiffly beaten whites of two or three eggs may be folded in just before pouring the mixture into the mould. The yolks may be used in making a custard sauce, and served with the pudding. Adding the eggs makes the pudding more nutritious.

NORWEGIAN PRUNE PUDDING

½ lb. prunes
2 c. cold water
1 c. sugar
1 tsp. lemon juice
Rind ½ lemon
1 inch piece stick cinnamon
1½ c. boiling water
⅓ c. cornstarch

Pick over and wash prunes, then soak one hour or more in cold water to cover. Boil until soft in the water in which they have been soaked. Remove the stones; add sugar, lemon juice, rind, cinnamon, boiling water, and simmer fifteen minutes. Mix cornstarch with enough cold water to pour easily, add to cooked prune mixture and cook 5 minutes. Remove cinnamon, mold and chill. Serve with plain or whipped cream. Chopped almonds may be added to the mixture just before being poured into the mould.

FOOD—Continued

The whole world is made up of elements and their compounds.

Of the seventy different elements, only about thirteen enter into the composition of the body. The four most important are: Oxygen, hydrogen, carbon and nitrogen. These are formed into chemical compounds by the vegetable and animal kingdoms, and support the human being.

The substances comprising the body must be obtained from the food, air (N_4O) and water (H_2O). That it may be easier to understand the subject of foods and their digestion, food is classified as follows:

Organic { Proteids, Carbohydrates, Fats and Oils

Inorganic { Mineral Matter, Water

Proteids always contain nitrogen and are called nitrogenous foods.

They also contain carbon, hydrogen, oxygen. and one or more elements, and are called **tissue-builders,** because their chief office is to build and repair tissues.

Example: Fish, meat, eggs, milk, cheese, peas, beans and cereals.

Carbohydrates include all the sugars and starches.

They contain carbon, hydrogen and oxygen. The chief office of the carbohydrates is to furnish energy and maintain heat.

Example: Cereals, rice, sago, tapioca; vegetables, (potatoes); sugar cane, sugar of fruits, etc., cellulose and gums.

Fats and Oils are composed of carbon and hydrogen, with a little less oxygen than the carbohydrates. The chief office of the fats and oils is to store up heat and energy to be used as needed, and they form the fatty tissues of the body. They yield about twice as much heat, pound for pound, as the carbohydrates. They are obtained from both the animal and the vegetable kingdoms.

Example: Butter, cream, and the fat of meats, fish, cereals, nuts, and the berry of the olive tree (olive oil).

Mineral Matter.—The chief office of mineral matter is to build up bone and other tissue, to aid digestion, and to purify the blood.

Example: Sodium, iron, lime, potash, sulphur, salt.

Water.—See Lesson 4A.

NOTES:

COOKED SALAD DRESSING

1 tsp. salt	Few grs. cayenne	¾ c. scalded milk
1 tsp. mustard	1 tbsp. flour	½ c. hot vinegar.
2 tsp. sugar	Yolks 2 eggs or 1 egg	

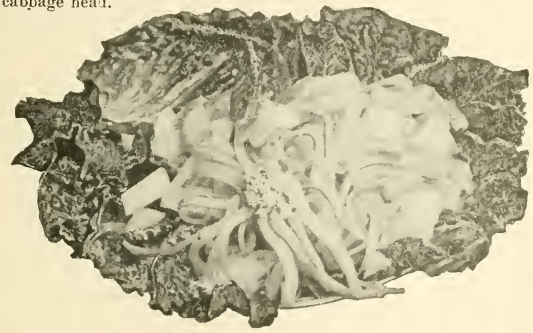
Mix the salt, mustard, sugar and cayenne; add the yolks and mix thoroly. Stir flour with 1 tbsp. cold water until smooth. Add a little of the scalded milk, stir, pour it into the scalded milk; cook in a double boiler, continue stirring until thickened. Pour it into the yolk mixture, return to double boiler, add the hot vinegar, stirring constantly until the mixture thickens. Add the butter. Cool before using. If cooked too long it will curdle.

SHREDDED CABBAGE OR COLD SLAW

Remove wilted leaves, and cut a quarter from a small head of cabbage and let stand in cold water until crisp. Cut out stalk, and cut into very fine pieces. Serve with cooked salad dressing.

CABBAGE SALAD

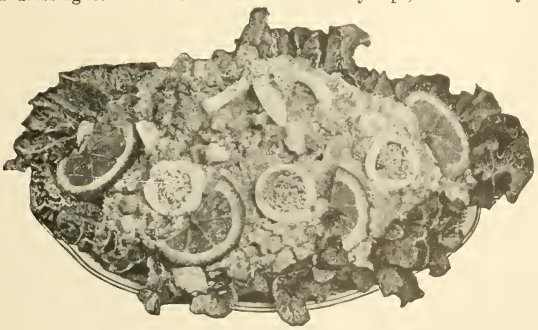
Scoop out the inside of a small head of cabbage. Cut into small pieces. Add finely cut celery. Soak until crisp in cold water. Drain. Moisten with salad dressing. May be served in the cabbage head.



POTATO SALAD

2 c. cubed boiled potatoes	1 c. finely cut celery
1 apple cut in ¼-inch cubes	Salad dressing

Add salad dressing to moisten. Garnish with celery tips, curled celery or hard-boiled eggs.



SALMON SALAD

Flake remnants of cold boiled salmon, or canned salmon. Add celery moistened with salad dressing. Arrange on nests of lettuce leaves. Garnish with the yolk of a hard cooked egg forced thru a potato ricer or strainer, and the white of egg cut into strips. Thin slices of lemon dipped in finely cut parsley may be used as a garnish.

LAYING THE TABLE

The room should be in perfect order, the air fresh, and the temperature comfortable.

GENERAL DIRECTIONS

Cover the table with an undercloth of felting or Canton flannel, or a clean cotton blanket may be used. Over this spread a spotless table cloth evenly, the middle fold upward dividing the table exactly in half.

POSITION OF HOST AND HOSTESS

Position of the host, at the head of the table, near entrance door. Hostess at the foot of the table opposite.

PLACING TRAY CLOTH, CARVING CLOTH, CENTERPIECE, ETC.

Tray cloth in front of hostess; carving cloth in front of host, on which arrange the knife rest. Carafe cloths near corners of table.

PLACING PLATES

Place a plate for each person, one inch from edge of table. If bread and butter plates are used, place one plate a little to the left, with butter spreader on edge of plate, a little to the right of plate. If individual butter plates are used, place over tip of fork.

PLACING KNIVES, FORKS AND SPOONS

Place the knife or knives at the right of each plate, the sharp edge toward the plate; the fork or forks at the left, tines up, one inch from the edge, being careful to have the spacing the same at every place. Spoons at right of knife, bowls up, handles an inch from the edge of the table, or over the plate, handles to the right. Place silver in the order in which it is to be used counting from the outside toward the plate.

PLACING THE GLASSES

Place the water glass top up at right of plate, at end of knife blade.

PLACING NAPKINS, PEPPER, SALT

Place napkins at left of plate. Pepper and salt near corners, or one of each between the places for two people.

CHAIRS

Arrange chairs so they need not be drawn out when people are seated.

SIDEBOARD AND SIDE-TABLE

Object: To hold all extras that may be needed during a meal. Sideboard may or may not be covered. Side table should always be covered.

EXTRAS ON SIDEBOARD

Plates, tumblers, forks, knives, spoons, cups, saucers, sugar bowl and creamer, water pitcher, milk pitcher, crushed ice, finger bowls, oil and condiments.

SIDE-TABLE

Serving plates, silver, carving knives and forks, trays (small), table scraper and tray. Space for soup tureen cover, vegetable dishes, gravy boats, etc.

Have at hand a soft napkin and heavy cloth in case of accident.

NOTES:

BREAKFAST

ARRANGE COFFEE SERVICE ON TRAY CLOTH

Before Serving—Fill finger bowls ⅓ full of tepid water, and place on a fruit plate covered with a doily. Knife at right and spoon at left.

Place fruit in center of table.

Cut bread and place on table; also butter balls. Fill carafes, water pitcher, milk pitcher and creamer. Put crushed ice in tumblers, fill ⅔ full of water.

GENERAL DIRECTIONS FOR SERVING

Meal is served from the table by host and hostess, or from side table by the waitress.

Warm plates for hot food.

Cold plates for cold food.

Dishes are held in the palm of the left hand on a folded napkin, or placed on a tray covered with a doily.

Everything is placed at the right and passed at the left.

In passing, hold left hand or tray low enough that each person may serve himself easily.

Serving silver should be placed in dish of food before passing.

If possible, serve hostess first and host last; serving those at right of hostess, then those at left. Serve one course around the table to the right, the second to the left, that all may be sure of equal attention.

Keep glasses properly filled. To fill glasses, draw to edge of table (do not remove from table) then replace.

IN CLEARING THE TABLE BETWEEN COURSES.

First, remove food, platters, serving dishes.

Second, soiled china, silver, glass, cutlery. Do not remove silver and cutlery from dishes in which they have been used.

Third, clean china, glass and cutlery.

Remove everything relating to one course before serving another.

Plates should be removed with the right hand at left of person, one at a time. If two are removed at once, take one in each hand; never pile.

DINNER

A SIMPLE DINNER may consist of two courses, meat or fish with vegetables, and a dessert.

A Dinner may consist of three courses, soup meat or fish with vegetables, and a dessert.

A Dinner may have more courses, as soup with rolls or bread, croutons or baked crackers, fish, meat with vegetables, salad, dessert, coffee.

ARRANGE THE CLOTHS, KNIVES AND FORKS AS FOR THE BREAKFAST

Place at the right of each knife a soup spoon and a teaspoon, or more if needed.

A carving knife and fork should be placed at the right of the host, who usually serves the meat, and the tablespoons beside the dish to be served.

Bread sticks or dinner bread is placed in the folds of the napkin.

If the serving is done by the host or hostess, the hostess should serve the soup, vegetables, salad, dessert, and tea or coffee; the host, meat or fish.

With a waitress, the hostess serves the soup, salad, dessert and coffee; the host, meat or fish, while the waitress passes the plates as food is served, and also serves the vegetables and entrees.

Place a ladle with the handle at the right, beside the tureen, before the hostess, and hot soup plates directly in front, almost touching tureen to prevent dripping on cloth.

In serving, soup should be dipped away from, not toward, the person. The same rule holds good in eating it.

After the cover has been removed from the tureen, the waitress should stand at the left of the one who is serving, hold the tray in the left hand, and with the right place the filled plate on the tray. Take it to the right of each person and, with the right hand, set it in front,close to the edge of the table.

After the first course, remove the soup turcen and the plates, one at a time, on a tray, or by taking one in each hand. Never pile one on the other.

Arrange the meat and the plates for the second course.

If anything is served with the course, the dish containing it should be placed on the tray, or held in the palm of the left hand on a folded napkin, with the handle of the serving spoon or fork toward the person. Pass it to the left side of each.

In removing a course, take large dishes or platters first; then the plates and knives and forks.

The carving knife and fork should be placed side by side on the platter.

Before the dessert is placed on the table, remove all dishes except the dessert spoons and glasses. Remove crumbs with a crumb knife or napkin.

Place the dessert in front of the hostess, serving spoon or fork at her right, plates and saucers in front or at the left.

NOTES:

Luncheon Prepared From Left-Overs

MENU I

Cream of Corn Soup

Pop Corn — Bread Sticks

Scalloped Veal and Tomatoes

Tomato Sauce — Bread and Butter

Fruit Tapioca, Cream and Sugar

MENU II

Tomato Soup

Celery — Crackers

Scalloped Flaked Cod

or

Hot Meat Sandwiches

Potatoes with Parsley Sauce — Bread and Butter

Sago Pudding with Grape Sauce

Prepare above, using large recipes.
Cost of preparing above menus to serve six:

Material	Quantity	Cost

INDIVIDUAL RECIPES FOR FIRST SEMESTER.

LESSON 6B

Corn Oysters

2 tbsp. sweet corn
2 tsp. beaten egg
2 tsp. flour
Few grs. salt
Few grs. pepper

Baked Corn

2 tbsp. corn
¼ yolk egg
2 tsp. flour
½ tsp. green pepper
⅛ tsp. salt
¼ beaten white

Stuffed Tomatoes

1 tomato
3 tbsp. cracker crumbs
4 tbsp. finely chopped cooked meat
½ tsp. butter
1-16 tsp. salt
Few grs. pepper

LESSON 7B

Milk Toast

1 slice bread

Sauce

¼ c. milk
1 tsp. flour
1 tsp. cold water
Few grains salt

Demonstrate Croustades
and
Eggs a la Golden Rod

1 hard-cooked egg

LESSON 8B

Hot Chicken Sandwich Recipe

May use small piece of veal
1 slice of bread cut in fourths, making two small sandwiches
¼ c. sauce made with stock

Demonstrate
The Club House Sandwich

LESSON 9B

German Toast.

2 tsp. egg
Few grs. salt
½ tsp. sugar
1½ tbsp. milk
1 slice bread

Baked Apple.

1 apple
1 tbsp. sugar
Few grs. cinnamon
Few grs. nutmeg
Rind ⅛ lemon

Demonstrate
Baked Bananas

LESSON 10B

Tomato Soup

½ c. tomatoes
½ c. water
2 peppercorns
Bit of bay leaf
1 clove
1-6 tsp. sugar
1-6 slice onion
1-6 tsp. salt
1 1/16 tsp. soda
1 tsp. flour
1 tsp. water
1 tsp. butter

Vegetable Soup

1 slice carrot
1 slice turnip
1 tsp. celery
3 slices potato
1 slice onion
Small piece of suet
1½ c. water
½ tsp. parsley
Few grs. pepper
½ tsp. salt

LESSON 11B

Cream of Potato Soup

½ potato
¾ c. milk
¼ slice onion
1 tsp. butter
1 tsp. flour
⅓ tsp. salt
Few grs. celery salt
¼ tsp. parsley
1 slice bread for Imperial Sticks

Cream of Tomato Soup

¾ c. milk
¼ slice onion
1 tbsp. flour
⅓ c. tomatoes
1-16 tsp. soda
¼ tsp. sugar
2 tsp. butter
¼ tsp. salt
Few grs. pepper
1 cracker

LESSON 12B

Scalloped Apples.

Sauce.
- ½ apple
- 1½ tbsp. sugar
- Few grains cinnamon
- Few grains nutmeg
- ¼ c. water
- ½ tsp. lemon juice

⅓ c. soft bread crumbs packed
1 tsp. butter

Scalloped Eggs.

½ egg
1 tbsp. meat
4 tbsp. crumbs and 2 tsp. butter
3 tbsp. white sauce (?) enough to moisten

LESSON 13B

Omelet

1 egg
⅛ tsp. salt
Few grs. pepper
1 tbsp. hot water
¼ tbsp. butter

LESSON 14B

Cream Puffs.

2 tbsp. butter
4 tbsp. boiling water
4 tbsp. flour
1 egg

LESSON 13B

Pop Overs

4 tbsp. flour
1-16 tsp. salt
3⅔ tbsp. milk
2 tbsp. beaten egg
1-16 tsp. melted butter

LESSON 14B

Apple Snow.

½ apple steamed
½ beaten white of egg
1 tbsp. powdered sugar

Prune Whip

3 prunes
½ beaten white of egg
1 tbsp. powdered sugar

Custard Sauce.

¼ c. scalded milk
1-16 tsp. salt
2 tsp. sugar
½ yolk
Few drops vanilla

Sago Pudding

¾ tbsp. sago
⅓ c. milk
¼ yolk and white
2 tsp. sugar
Few grs. salt
4 drops vanilla

Grape Sauce.

3 tbsp. grape juice
3 tbsp. water
½ tsp. corn starch
1 tsp. lemon juice

LESSON 16B

Salad Dressing

¼ tsp. salt
¼ tsp. mustard
½ tsp. sugar
Few grs. cayenne
1½ tsp. flour
½ yolk
3 tbsp. scalded milk
1 tbsp. vinegar

Potato Salad

½ c. potato cubed
1 slice apple
1 tsp. celery

Salmon Salad

1½ tbsp. salmon

Demonstrate Cabbage Salad

CARBOHYDRATES—HEAT AND ENERGY PRODUCERS

CARBOHYDRATES CONTAIN CARBON, HYDROGEN AND OXYGEN

The hydrogen and oxygen are in the same proportion as in water (H_2O).

Containing a large amount of carbon, the element which will burn, they are classed as fuel foods.

The Fuel Foods which we eat combine in our bodies with the oxygen inhaled with the air we breathe, producing heat and the necessary power for motion.

The slow fire in our bodies takes place in all the tissues.

The normal temperature of the body is 98 plus deg. F., and as this is the same summer and winter, we need more fuel foods in the winter than in the summer.

Carbohydrates furnish energy and maintain heat.

Carbohydrates include all the starches and sugars.

Carbohydrates in the form of starch furnish a bulky food, and while a certain amount of bulk is necessary, an excess causes gastric trouble.

STARCH

STARCH is a white glistening powder. It is found in the vegetable kingdom and most abundantly in cereals (rice, wheat, oats, etc.), sago, tapioca, nuts, arrowroot and vegetables. Alone it cannot sustain life, but must be taken with foods that build and repair tissue.

Experiments show that:

1. Cold water separates the starch grains.
2. Boiling water swells and softens starch grains. If starch has been mixed with cold water first, boiling water added forms a soft paste.
3. Boiling water poured on dry starch forms a lumpy mixture.
4. Starch mixed with sugar before boiling water is added separates the starch grains and forms a smooth paste.
5. Starch mixed with melted butter before adding boiling water separates the starch grains and forms a smooth mixture.
6. Starch heated without water becomes sticky, yellow, brown, then black, but does not swell nor soften.

Heat and moisture are necessary to soften starch.

Raw starch is not soluble.

All foods containing starch must be thoroly cooked in order to prepare them for digestion.

The digestion of starch begins in the mouth, where, if masticated sufficiently, it is acted upon by the ptyalin of the saliva. This changes the starch into a soluble substance called dextrine (a sugar). The food passes on to the stomach where no action takes place on starch, and into the small intestines, where the change into dextrose (or sugar) is completed by the action of amylopsin, a ferment in the pancreatic juice.

All starch must be changed into dextrose before it can be absorbed and used in the body.

NOTES:

A POTATO IS A TUBER OR AN ENLARGEMENT OF THE UNDERGROUND STEM

Potatoes contain more than three-quarters water and nearly one-fifth starch. They also contain a very small amount of proteid matter, potash salts and other mineral matter.

Potatoes should be kept in a cool, dark, dry place. If kept in a light place, an unpleasant flavor is developed.

Potatoes pared before being boiled lose much of their food value during cooking.

Most of the mineral matter lies just beneath the skin.

Always pare potatoes thinly when skin is removed, and take out eyes with the point of the knife.

Old or poor potatoes are improved by soaking for one hour in cold water, as it restores the moisture lost by long drying.

Rapidly boiling water wears off the outside of the potato before the middle is cooked. Let it bubble gently.

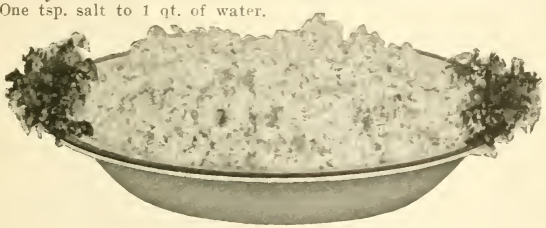
If the outside of large potatoes becomes soft before the inside is cooked, add one pint of cold water. There is heat enough inside the potato to finish the cooking.

Quickly baked potatoes are more easily digested than boiled potatoes.

BOILED POTATOES

Choose medium-sized potatoes. Wash, pare and drop into cold water. Cook in freshly boiling salted water until soft. Drain, uncover and shake gently over the fire until the outside is dry and mealy.

NOTE.—One tsp. salt to 1 qt. of water.



RICED POTATOES

Press hot boiled potatoes thru the ricer or a coarse strainer.

MASHED POTATOES

6 medium-sized potatoes — ⅛ tsp. pepper — 1 tsp. salt
3 tbsp. butter — ⅓ c. hot milk or more

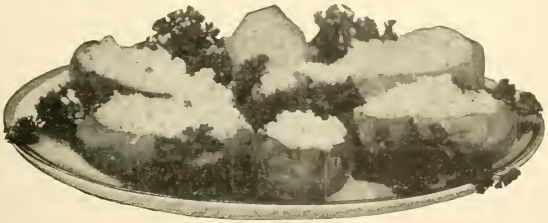
Boil and drain the potatoes—rice and mash in the saucepan in which they have been cooked.

Season, add the butter, and gradually the hot milk.

Beat until light with a fork, or wire beater, and pile on a hot dish.

BAKED POTATOES

Select medium-sized potatoes, wash, scrub and dry them well. Bake them in a shallow pan on the rack in a moderately hot oven until soft (about 40 to 45 min). Turn them occasionally, and when soft press them between the fingers to break the skins in order to let the steam escape. Serve in a folded napkin.



POTATO PUFFS

Bake 6 potatoes. When baked, cut slice from top of each and scoop out inside.

Mash according to recipe for mashed potatoes.

Refill the jackets, brush the tops with slightly beaten white of egg, and brown in oven.

CREAMED POTATOES

Cut cold boiled potatoes into cubes and allow 1½ c. white sauce to 2 c. cubed potatoes.

Reheat new potatoes in white sauce. Finely minced parsley may be added.

CARBOHYDRATES—CEREALS

CEREALS or GRAINS are grasses, the seeds of which are used for food.

The word "Cereal" comes from the name of the Roman goddess, Ceres, who was called the "Goddess of Agriculture."

Nature provides some kind of a cereal in almost every country—from the oats and rye of the northern countries to the rice of the southern countries. Man depends on it for his daily bread. The following data, based upon the results gathered in dietary studies, shows that cereal foods alone supplied the average family with 22% of the total food consumed—furnishing 31% protein, 7% fat and 55% carbohydrates in the diet. Cereals provide a compact food in a dry state easily kept. They contain the food elements in a desirable proportion with a small amount of refuse, are easily prepared, and furnish a digestible and inexpensive food. All grains are covered with a hull or husk, which is indigestible. This is always removed. They also have another coating, a bran layer, which may or may not be removed. This is rich in mineral matter. In some the germ is removed.

Grains should be thoroly cooked before serving.

The grains usually used for food are: Wheat, oats, corn, rice, rye, and barley.

Grains crushed are called grits.

Grains crushed more finely or coarsely ground make meal.

Grains finely ground and sifted make flour.

Grains are usually mixed with water or other liquid to hydrate the starch, boiled or steamed and served as porridge or pudding, or with meat stock in soups, or with milk or water and baked into bread or cakes.

The cooking swells and bursts the starch cells.

Among the most important are wheat, Indian corn or maize, oats, rice, rye, and barley.

From these are prepared various breakfast foods—oatmeal, wheatena, vitos, etc.

They all contain more or less starch and therefore should be thoroly cooked.

Cereals contain from 66 to 75% starch, from 7 to 15% proteid, from 1 to 10% fat, from 10 to 12% water.

Cereals should absorb all the water in cooking.

The cooked cereal should be stiff enough to be chewed. Why?

TABLE SHOWING COMPOSITION OF CEREALS.

	Proteid	Fat	Starch	Minerals	Water
Oatmeal	15.6	7.3	68.0	1.9	7.2
Entire Wheat Flour	14.2	1.9	70.6	1.2	12.1
Graham Flour	13.7	2.2	70.3	2.0	11.8
Wheat Flour (Spring)	11.8	1.1	75.0	0.5	11.6
Wheat Flour (Winter)	10.4	1.0	75.6	0.5	12.5
Cornmeal	9.3	1.0	77.6	1.3	10.8
Pearl Barley	8.9	2.2	75.1	0.9	12.9
Rice	7.8	0.4	79.4	0.4	12.4
Rye Meal	7.1	0.9	78.5	0.8	12.7
Buckwheat Flour	6.1	1.0	77.2	1.4	14.3

The preceding table is from the Department of Agriculture, Washington.

For Family Use, cereals should be bought in small quantities, and kept in glass or tin jars tightly covered.

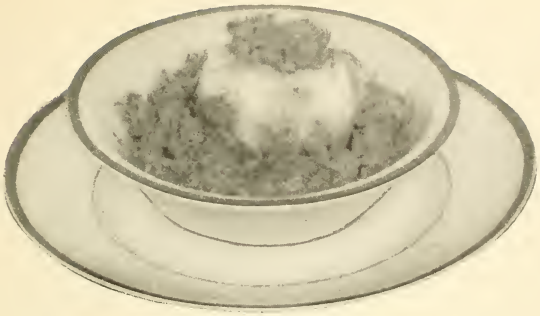
GENERAL RULES

Directions for Lower Part of Double Boiler.—Fill the lower part of the double boiler one-third full of water; it must be kept rapidly boiling while cereal is cooking. If more water is needed before the cereal is cooked, add boiling water.

Directions for Upper Part of Double Boiler.—Measure the water, boil, add salt and the cereal slowly, and place directly over the heat. Boil from 5 to 10 minutes, stirring to prevent burning; place over the boiling water which is in the lower part of double boiler and steam until cooked. If more water is needed, add boiling water.

TABLE showing the time of cooking, and proportions of salt and water for Breakfast Cereals.

KIND	Tsp. of Salt to a Cup of Cereal	Cupfuls of Water to 1 Cup Cereal	Method of Cooking	Time of Cooking in Hours
OATMEAL, ROLLED OATS, etc.	1	2	Steam	1 hour or more
RICE	3	8 or more	Boil	½ hour or more
RICE	1	3	Steam	1 hour
INDIAN MEAL	1	6	Boil	If soaked, 3; If not, 6
HOMINY	1	4	Steam	If soaked, 3; If not, 6
FARINA and other fine wheat productions	1	4	Steam	1 to 3 hours



Oatmeal Mush with Apples

OATMEAL MUSH WITH APPLES

1 c. oatmeal (rolled)	1 tsp. salt
2 c. boiling water	6 cooked apples

Place lower part of double boiler ⅓ full of water over the fire.

Measure the boiling water and salt into top part of double boiler. Place directly over the fire. Add oatmeal gradually. Boil directly over the fire from 5 to 10 minutes. Place upper part of double boiler containing cereal into lower part of boiler containing water. Cook 1 hour, or more.

Core apples; leave large cavities; pare and cook in syrup (made of 1½ c. of water and ½ c. sugar) until soft. Fill the centers with oatmeal mush and serve with cream.

WHEATENA WITH DATES, FIGS, PRUNES, ETC.

¾ c. wheatena	2 c. of boiling water	½ lb. dates, stoned and
½ c. cold water	1 tsp. salt	cut in pieces

Mix cereal, salt, dates and cold water; add boiling water gradually, place on front of range. Boil 5 minutes, then cook in double boiler 1 hour or more. Serve with cream.

PETTIJOHN'S BREAKFAST FOOD

1 c. Pettijohn's Breakfast Food	1 tsp. salt
1¼ c. water	Follow rules for cooking cereals.

CEREAL OMELET

4 eggs	¼ c. or 4 tbsp. soft cooked
¼ tsp. salt	cereal, Vitos, Cream of Wheat, etc.

Beat yolks until thick; add salt and cooked cereal.

Fold in the stiffly beaten whites and cook in a buttered omelet pan.

Follow directions in Lesson 13B.

NOTE.—ALL CEREALS SHOULD BE THOROLY COOKED; THE LONGER THE BETTER. CEREALS MAY BE COOKED THE PRECEDING DAY AND THEN REHEATED FOR BREAKFAST. COVER WITH A CLEAN, DAMP CLOTH SO THAT MOISTURE WILL NOT DROP INTO CEREAL FROM A TIN COVER.

CEREALS ARE COOKED TO ADVANTAGE IN FIRELESS COOKERS.

NOTE.—GRATED CHEESE MAY BE ADDED TO ANY COLD LEFT-OVER CEREAL, MADE INTO CROQUETTES AND FRIED. COLD CORNMEAL MUSH MAY BE SLICED AND SAUTED.

CARBOHYDRATES—RICE

RICE IS A CEREAL, grown in Ceylon, China, Japan, Central America and the Gulf States.

Rice is grown in swampy places and the very best rice is grown where there is a foot or two of water above the roots around the stem of the plants.

There are two kinds of rice commonly sold, the Carolina rice which is a long slender grain, and the Japanese rice which is a short, flat, oval grain.

The commercial rice is usually polished and coated with glucose and talcum. The polishing removes the covering which is rich in mineral matter and therefore makes it undesirable. Buy unpolished rice, as it is not only richer in mineral matter but also in protein.

Rice is the richest in starch (having about 79 per cent) and the poorest in proteid and fat, of all the cereals. The starch grains are small and are easily digested.

Rice is said to be the main food of one-third of the human race. With the exception of wheat, more millions of people eat rice as their main food than any other one cereal. The people of China, Japan and India use rice as their main food, not alone, but in combination with protein foods.

Alone, rice is not a perfect food. It should be eaten with foods that build and repair tissues, as eggs, milk, meat, cheese, etc.

When boiled, rice absorbs five times its weight in water; but loses some of its small amount of mineral matter.

The water in which rice has been cooked may be utilized in mixing bread, or it may be combined with vegetables and used as a basis for soups.

The older and drier the rice, the longer it takes to soften.

TO WASH RICE.—Put rice into a wire strainer; put strainer in a bowl of cold water, and rub the rice between the hands; change water two or three times, or until rice is clean, when the water will be clean. Polished rice should be washed in six waters to remove the talc and glucose covering.

Review Carbohydrates.

Make out five questions.

NOTES:

RICE

PART I

BOILED RICE

1 c. rice | 2 qts. boiling water | 1 tsp. salt

Pick over rice; add slowly to boiling salted water so as not to check the boiling of the water. Boil 30 minutes, or until soft. Drain in a coarse strainer and pour over it 1 qt. of the cold water, in order to separate the starch grains. Return to kettle, place on back of range and let it stand to dry off, when kernels are distinct. When stirring rice always use a fork to avoid breaking kernels.

STEAMED RICE

1 c. rice
1 tsp. salt
3 to 4 c. boiling water or scalded milk

Put water and salt in top of double boiler, place on range, and add gradually well washed rice, stirring with a fork to prevent adhering to boiler. Boil 5 minutes, place over under part of double boiler and steam 45 minutes, or until kernels are soft. Uncover that steam may escape.

FLOATING ISLAND

1½ c. scalded milk
3 yolks of eggs
¼ c. sugar
⅛ tsp. salt
3 whites of eggs
½ tsp. vanilla

Scald the milk, beat the whites until stiff. Fold in 2 tbsp. of sugar, and turn them into the hot milk and cook 3 minutes. Remove whites with a tablespoon into a serving dish. **Prepare Custard Sauce.** Mix the yolks, sugar and salt in a bowl. Pour the scalded milk in which the whites have been cooked into the yolks. Stir while adding. Pour back into the double boiler and cook until a coating is formed on the spoon. Remove immediately; add flavoring. Pour around the cooked whites. This may be served with boiled or steamed rice or alone.

PART II.

Rice with Pineapples, Walnuts and Whipped Cream

RICE WITH APPLES OR PINEAPPLE

2 c. steamed rice
3 eggs
½ c. milk
½ c. sugar
2 steamed or cooked apples or ½ can pineapple

Pare and core the apples, cut in eighths and cook until soft.

Add well beaten yolks of eggs, sugar, milk and cooked apples cut in small pieces to the steamed rice. Fold in the stiffly beaten whites and bake 30 minutes in a well buttered and crumbed baking dish. SERVE WITH CREAM OR FRUIT SAUCE.

Raisins or dates may be used in place of apples.

CARBOHYDRATES—SUGAR

SUGAR IS A SWEET CRYSTALLINE SUBSTANCE AND, LIKE STARCH, IS A CARBOHYDRATE.

It differs from starch in being soluble in cold water, and in its sweet taste.

Sugar is obtained from sugar cane, sugar beets, sorghum and sugar maple.

SUGAR CANES are grown in the Gulf States, Cuba, Hawaiian Islands, East Indies, India and in other warm moist countries. They resemble cornstalks, and the spongy substance between the joints is filled with a sweet juice or sap, from which cane sugar is made. Sometimes as many as 75 lbs. of sap are obtained from 100 lbs. of cane. The sap is heated in great kettles which causes the water to evaporate, leaving two products, molasses and brown sugar. The brown sugar is then refined by putting it through filters and cylinders which contain burned bones (bone black). When the liquid comes out of the bone filter it is a clear syrup. This is crystallized and made into Granulated, Loaf, Powdered and Confectioners' Sugar.

GLUCOSE, OR GRAPE SUGAR, is found in honey, fresh fruit and on the skin of dried fruits, such as raisins, dates, etc. Commercial glucose is made from the starch of corn. Sugar boiled for any length of time with an acid changes some of it into glucose.

SUGAR RANKS FIRST AS AN ENERGY GIVING FOOD. It passes quickly into circulation, so it produces energy in a very short time. It forms part of the rations of the soldiers of this and other countries.

SUGAR is a great preservative, hence its use in preserving fruits and milk.

EATEN AT PROPER TIMES, CANDY IS A USEFUL ARTICLE OF FOOD. It should not be eaten to excess nor before meals. If too much is eaten at a time, it is likely to ferment in the stomach. Three or four ounces a day may be considered the right amount for an adult.

IN COOKING SUGAR FOR CANDY, use an agate or an iron pan, as it is less liable to burn than in tin.

Butter pans for candy before it is cooked.

Have ready some cold water in which to test the candy.

When the candy is poured into the pan, do not scrape the saucepan over it, nor allow any of the scrapings to fall into it.

Scraping or stirring the candy while cooling, after it has been poured into the pan, will cause it to become sugary.

Acid substances like lemon-juice or cream-of-tartar added to the candy while cooking, will keep it clear. Temperatures:

232 to 242 deg. F.—Soft ball.
248 deg. F.—Hard ball.
345 deg.—Caramelization point.

NOTES:

PEANUT CANDY

2 c. sugar — 1 qt. peanuts — ¼ tsp. salt

SHELL, remove skins, and finely chop peanuts. Sprinkle with the salt. Put sugar into a perfectly smooth pan. Place on the range and stir until sugar is melted, taking care to keep the sugar from the sides. Add the nut meat and pour at once into the buttered pans.

PINOCHE

2 c. brown sugar — 4 tbsp. butter — 15 drops vanilla
½ c. milk — 1 c. nut meats

BOIL the first three ingredients until a soft ball can be formed in cold water.
Remove from fire, cool, add nut meat and vanilla, and beat until creamy.
Pour into buttered pans. Cut in squares.
The butter may be omitted and one cup of milk used in place of the ½ cupful.

SEA FOAM

2 c. sugar — ½ c. corn syrup — Whites two eggs
¾ c. boiling water — ¾ c. chopped nut meats — ½ tsp. vanilla

BOIL first three ingredients until a hard ball can be formed in cold water, or until it spins a four inch thread. Pour syrup gradually into the stiffly beaten whites of eggs; add nut meats; beat until creamy; pour into a buttered pan to cool.

CHOCOLATE FUDGE

1½ c. sugar — 2 tsp. butter — ½ tsp. vanilla
⅔ c. milk — 1 sq. Baker's chocolate

BOIL first four ingredients until a soft ball can be formed when tried in cold water.
Remove from fire and let stand 10 minutes. Beat until the mixture thickens; add vanilla.
Pour quickly into a buttered pan. Cool and cut in squares.

FRENCH CREAM

1 egg white — ½ tbsp. cold water — 1 tsp. vanilla
1 lb. confectioner's sugar

MIX the egg white, cold water and vanilla. Beat until thoroly mixed. Add gradually the sifted sugar to the liquid until the mixture is stiff enough to knead. It may be used instead of fondant, for creamed walnuts, dates and almonds.

TAFFY

1½ c. light brown sugar — 1 c. molasses — ½ tsp. soda
1 tbsp. butter

BOIL together the first three ingredients until when tried in cold water it will form a hard ball. Add the soda, and pour into a buttered pan. Pull when slightly cool.

WHEAT

Wheat is a Cereal grown in Russia, United States, France, India, Austria, Argentine, etc.* One-fifth of the whole world's crop is now raised in the United States.

Minneapolis is the greatest flour center in the world.

Most of the bread flour made from Spring Wheat is ground in Minneapolis and Duluth, while the pastry flour made from Winter Wheat is ground in St. Louis.

Wheat has five times as much proteid, the tissue-building matter, and three times as much carbohydrate, the heat and energy giving matter, as the same quantity of potato.

A Grain of Wheat

A Grain of Wheat consists of—

1. An outer covering or husk, which is always removed before milling.
2. Bran coats which contain mineral matter.
3. Gluten, the proteid matter.
4. Starch, the center and largest part of the grain.
   Lying next to it is the tiny germ which contains the fat or oil.

Wheat is classed as Spring Wheat and Winter Wheat.

Winter Wheat is planted in the Fall and lies in the ground during the winter, and is reaped early the next summer.

Spring Wheat is planted in the spring and reaped in the fall.

Spring Wheat contains more gluten and is harder than winter wheat and is used for bread flour. It is more economical to use bread flour for making bread, as less flour is required.

Winter Wheat contains proportionately more starch, is softer than Spring Wheat, and is used for pastry flour. It is more economical to use pastry flour for pies and cakes, as less shortening is needed.

Macaroni Wheat is harder than the ordinary Spring wheat, contains more gluten, and is made into flour used for macaroni and bread making.

Three kinds of Flour are made from Wheat.

Graham, Entire or Whole Wheat, and the White Flour.

Graham Flour contains the entire grain, including the outer bran coats.

Entire Wheat Flour contains the entire grain, not including the two outer bran coats.

White Flour is made by grinding and sifting the grain several times, during which process all the bran is removed.

The Average Composition of Wheat Flour

Proteid	11.3
Carbohydrates	74.6
Fat	1.1
Mineral Matter	0.5
Water	12.5

*Named in order of amount grown in each country.

NOTES:

Macaroni, Spaghetti and Vermicelli are made from Macaroni Wheat Flour.

The flour is mixed with enough water to make a stiff paste. This paste, which is cut into cakes about one foot square and from one to three inches in thickness, is put into a steam heated iron cylinder. The bottom of this cylinder has a copper plate filled with holes having the centers filled, and by means of a cover fitted to a screw press, the mixture is forced through as rods, tubes, etc. After these are cut into lengths of about three feet, they are hung up to dry for five days before they are packed in boxes for the market.

Good macaroni is rough, elastic and hard, of a yellowish color and not starchy.

Macaroni is considered a valuable food, as it is nutritious and inexpensive. It should, however, be served with cream, butter or cheese to make it a perfect food. In cooking, macaroni absorbs three times its weight in water. Therefore it must be cooked in a large quantity of water.

BOILED MACARONI

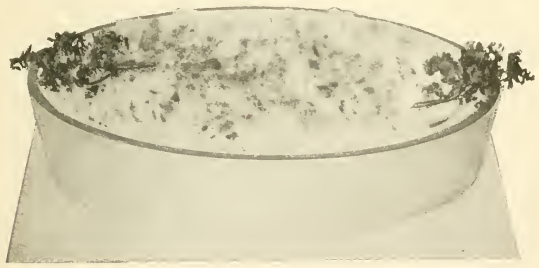
¾ cup macaroni, broken into inch pieces
2 quarts boiling water
1 tbsp. salt

Cook macaroni in boiling salted water 20 minutes, or until soft.

Drain in strainer. Pour over cold water to prevent pieces from adhering.

MACARONI WITH WHITE SAUCE

Cook as for Boiled Macaroni, and reheat in 1½ cups White Sauce. (Lesson 7B.)



BAKED MACARONI WITH CHEESE

Put a layer of boiled macaroni in a buttered baking dish, sprinkle with grated cheese. Repeat. Pour over White Sauce, cover with buttered crumbs, and bake until crumbs are brown.

MACARONI WITH TOMATO SAUCE

Brown 2 tbsp. butter; add 3 tbsp. flour, and gradually 1½ cups tomato juice which has been previously cooked with 1 slice onion, 2 cloves; 3 pepper corns and ½ tsp. salt.

Reheat boiled macaroni in the tomato sauce.

MACARONI SALAD

½ c. boiled macaroni cut into ⅓-inch pieces ½ c. boiled ham cut into ¼-inch cubes.
½ c. sweet pickles cut into small pieces

Mix and moisten with boiled salad dressing (See Lesson 16B), using only ¼ c. vinegar and ½ tsp. mustard. Serve on lettuce leaves, in tomato cups, or garnish with parsley, etc.

LEFT OVERS OF MEAT may be used with the "Baked Macaroni" and the "Macaroni with Tomato Sauce."

FLOUR MIXTURES

MIXTURES of Flour or Meal and Liquid are called batters or doughs, according to the quantity of liquid used.

Batter is a mixture of flour and liquid thin enough to be beaten.

Pour Batter is a thin batter—1 meas. liquid to 1 meas. flour. Example: Griddle Cakes.

Drop Batter is a thick batter—1 meas. of liquid to 2 meas. of flour. Example: Muffins.

Dough is a mixture of flour and liquid stiff enough to be handled on a board.

Soft Dough.—1 meas. liquid to 3 meas. flour. Example: Baking Powder Biscuit.

Stiff Dough.—1 meas. liquid to 4 meas. flour. Example: Pastry.

The proportions vary according to the flour and liquid used.

The liquid ingredients include water, milk, molasses, eggs, etc.

The dry ingredients include flour, meal, sugar, salt, spices, baking powder, etc.

The FATS called "shortening," added to make the mixture tender, include butter, lard, drippings, suet, chicken fat, etc.

A mixture of flour and liquid alone when cooked would be hard and indigestible.

Batters and doughs are made "light" or porous by the introduction of a gas which is expanded by the heat applied during the cooking.

The gases that aid in making a dough "light" or porous are air, steam and carbon dioxide.

Air may be introduced into the mixture directly, or may be first beaten into eggs and then added to the mixture. (See Lesson 13A.)

STEAM.—(See Lesson 13A.)

Carbon dioxide may be formed within the mixture by the action of yeast during fermentation, or it may be set free by chemical action from substances containing the elements of which it is composed. Example: baking powder. (See Lesson 25A.)

GENERAL DIRECTIONS FOR BATTERS AND DOUGHS

Sift flour before measuring.

Put flour by spoonfuls into the cup; do not press or shake down.

Mix and sift dry ingredients.

Measure dry and then liquid ingredients. Add the liquid to the dry ingredients.

Shortening may be rubbed or chopped in while cold, or creamed; or it may be melted and then added to dry ingredients, or added after the liquid.

Use 2 level tsp. baking powder to 1 c. flour.

If eggs are used, less baking powder will be required.

Baking powder mixtures should be handled as little as possible.

Baking powder mixtures require a hot oven.

In baking batters and doughs the larger the quantity the lower the temperature must be that the heat may penetrate the interior and expand the gas and harden the albumen and gluten.

NOTES:

USE A FRYING PAN OR GRIDDLE.

Keep the pan hot without burning the cakes.

A piece of fat salt pork or beef fat placed on a fork, or butter, may be used to grease the pan.

A soapstone or aluminum griddle must never be greased.

Let the fat begin to smoke before cooking the cakes.

Pour the mixture from the tip of the spoon; cook on one side.

When puffed full of bubbles and cooked on the edges, turn and cook on the other side.

If large bubbles form at once to the top of the cakes, the griddle is too hot.

If the top of the cake stiffens before the under side is cooked, the griddle is not hot enough.

Never turn a cake twice.

Remove all scraps and wipe pan after each set of cakes are cooked.

Grease pan and repeat.

Serve griddle cakes as soon as cooked.

SOUR MILK GRIDDLE CAKES

2 c. flour
2 c. sour milk
½ tsp. salt
1 tsp. soda
1 egg

Mix and sift dry ingredients; add sour milk and egg well beaten.
Cook according to general directions.

WHOLE WHEAT GRIDDLE CAKES

½ c. entire wheat flour
½ tsp. salt
1 egg
1 c. flour
3 tbsp. sugar
1¼ c. milk
3 tsp. or 1 tbsp. baking powder
1 tbsp. melted butter

Mix and sift dry ingredients; add milk and well beaten egg slowly.
Beat and add butter. Cook according to general directions.

BREAD GRIDDLE CAKES

1½ c. stale bread crumbs
2 tbsp. butter
½ c. flour
1½ c. scalded milk
3½ tsp. baking powder
½ tsp. salt
2 eggs

Add milk and butter to crumbs and soak until crumbs are soft. Add eggs well beaten, then flour, salt and baking powder mixed and sifted. Beat. Cook as other griddle cakes.

LEMON SYRUP

1 c. sugar
⅓ c. water
1 tbsp. lemon juice
1 tsp. butter

Boil sugar and water 5 minutes. Remove from fire, stir in lemon juice and butter.
Serve at once.

WAFFLES

1¾ c. flour
3 tsp. or 1 tbsp. baking powder
¾ c. milk
2 tbsp. sugar
3 tbsp. melted butter
1 tsp. salt
2 well beaten eggs

Mix and sift dry ingredients. Add eggs, milk and melted butter. Mix. Beat thoroly.
Cook in well greased waffle irons.

BAKING POWDER

BAKING POWDER contains the substances used to produce carbon dioxide (C O2).

The substances are an alkaline: ex., bi-carbonate of soda (cooking soda) and an acid; ex., cream of tartar, phosphate, etc. These, together with heat and moisture, form the gas which, in its effort to escape, fills the mixture with bubbles, making it light and porous.

If the mixture is baked, at the right temperatures, while the gas is forming, the heat of the oven firmly fixes the expanded bubbles in place and sets the mixture.

The gluten of the flour enables the walls of the gas bubbles to become firm. The walls become firm sooner in an egg mixture because the albumen coagulates at a low temperature.

During baking the gas escapes into the air, leaving a small amount of mineral matter in the mixture. Example: Rochelle salts, when a cream of tartar baking powder is used.

Phosphates, when a phosphate baking powder is used.

Aluminum sulphate when an alum baking powder is used.

EXPERIMENTS

I. Put into a heavy glass ¾ tsp. soda, and ¼ c. boiling water. Mix thoroly. What happens?

II. Add to No. I, ¼ tsp. cream tartar. What happens?

III. Put into a glass ⅛ tsp. soda and ¼ tsp. cream of tartar.

IV. Add to No. III, 1 tbsp. cold water and stir. What happens?

V. Add to No. IV, ¼ c. boiling water.

I. Bicarbonate of soda is an alkaline substance and contains carbon dioxide. If hot water is added it will set free carbon dioxide.

II. An acid substance like cream of tartar added to No. I will liberate more gas, and if the right proportion of acid is used it will set free all the gas, leaving the remaining mixture neutral; that is, neither acid nor alkaline.

III. A dry mixture of soda and cream of tartar will not liberate the gas.

IV. Cold water added to No. III liberates gas.

V. Boiling water added to No. III causes a rapid escape of the gas.

Other acids added to baking soda will liberate the C O2 gas in the same way. Example: sour milk and soda, molasses and soda.

To 1 c. sour milk use ½ tsp. soda.

To 1 c. molasses use 1 tsp. soda.

HOW TO PREPARE BAKING POWDER

One-half pound bicarbonate of soda.

One pound and two ounces cream of tartar.

One-quarter pound corn starch.

Free the soda from lumps; add to it the cornstarch, and sift six times. Add the cream of tartar and sift six times. Put into tin boxes and keep tightly covered.

There is enough moisture in the air to start the action of the powder, so a little cornstarch is added to take up this moisture and keep the powder dry.

NOTES:

GENERAL DIRECTIONS.—Measure, mix and sift dry ingredients. Add well beaten egg, milk, and shortening melted. Beat vigorously. Half fill well greased muffin tins. Bake in a hot oven 20 or 30 minutes.

NOTE.—By measuring dry ingredients first, then liquids and fat, you need only use one cup. When milk and eggs are used, rinse egg from bowl with milk.

PLAIN MUFFINS

2 c. flour	4 tsp. baking powder	1 c. milk
2 tbsp. sugar	½ tsp. salt	2 to 4 tbsps. melted butter
	1 or 2 eggs	

Mix according to directions. If two eggs are used, less baking powder is required. If a richer muffin is desired, use cranberry muffin recipe, omitting the berries.

GRAHAM MUFFINS

1½ c. graham flour	4 tsp. baking powder	1 c. milk
½ c. flour	1 tsp. salt	1 to 2 tbsps. melted butter
¼ c. sugar	1 egg	

Mix according to directions.

OATMEAL MUFFINS

⅜ c. rolled oats	½ tsp. salt	4 tsp. baking powder
1 c. scalded milk	2 tbsp. melted butter	1 egg
3 tbsp. sugar	1½ c. flour	

Add scalded milk to the rolled oats. Let stand 5 minutes. Add sugar, salt and melted butter.

Sift in flour and baking powder; mix thoroly; add well beaten egg. Drop into buttered muffin tins. Bake.

CORN MEAL GEMS

¾ c. corn meal	3 tsp. baking powder	1 egg
1 tbsp sugar	½ tsp. salt	1 to 2 tbsp. melted butter
¾ c. flour	1 c. milk	

Scald one-half the milk, then pour over the corn meal; add the butter, salt and sugar. Let stand until cool. Add the yolk, remaining milk and the sifted flour and baking powder. Beat thoroly, and fold in the stiffly beaten white. Bake in greased muffin tins.

CRANBERRY MUFFINS

⅓ c. butter	¾ c. milk	1 c. berries (sprinkled with
¼ c. sugar	2 c. sifted flour	2 tbsp. sugar)
1 egg	4 tsp. baking powder	

Cream the butter, add sugar, well beaten egg, and milk, then the flour sifted with the B. P. Add berries, drop into muffin pans, and bake. If the berries are omitted, rich, plain muffins are the result.

CORN

Corn is a native of America.

It is claimed that there is more CORN raised in the United States than any other cereal.

It is a native of America and Mexico.

With the exception of OATS, corn is considered the richest in fat of all the cereals.

The germ in the corn is proportionately large and rich in fat. It becomes rancid easily and is therefore often removed in the preparation of corn meal. This, of course, reduces the food value of the meal.

It is deficient in gluten and salts, and should therefore be eaten with foods containing gluten and mineral matter.

It is a very valuable food, especially in winter. Why?

There are three kinds of Corn: Field Corn, Sweet Corn, and Popcorn.

From the Field Corn we get corn meal, cornstarch, corn oil, corn syrup, etc.

Broken grains of corn are known as hominy.

Sweet Corn is eaten as a vegetable in the form of green corn (see Lesson 4B); for cream soups (see Lesson 11B); for corn souffle, scalloped corn, corn oysters, etc. (see Lesson 6B).

Popcorn is a dwarf variety of field corn. When it is exposed to heat it swells and pops into a soft, white fluffy form. This is a delicious, wholesome food, and may be served with cream of corn soup.

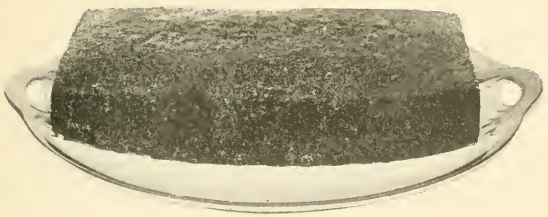
Corn meal is used in making Corn-cake (Lesson 26B), Muffins (Lesson 25B), Griddle cakes (Lesson 24B), Steamed Bread (Lesson 57B), etc.

White flour is usually added to corn mixtures, as the gluten in the flour helps to hold the expanded bubbles in place.

It is difficult to make a good light corn-cake without adding the white flour.

Total and Digestible Nutrients and Fuel Value of Cereals from "Human Foods"
By Harry Snyder, B. S.

KIND OF FOOD	Total Nutrients						Digestible Nutrients				
	Water	Pro.	Fat	C. H. N. F. Ext.	C. H. Fiber	Ash	Pro.	Fat	C. H.	Ash	Fuel Value per lb.
	%	%	%	%	%	%	%	%	%	%	Calories
OAT PREPARATIONS:											
Oats, whole grain	11.0	11.8	5.0	59.7	9.5	3.0					
Oatmeal, raw	7.3	16.1	7.2	66.6	0.9	1.9	12.5	6.5	65.5	1.4	1767
Rolled, steam cooked	8.2	16.1	7.4	65.2	1.3	1.8	12.5	6.7	64.5	1.4	1759
WHEAT:											
Whole grain	10.5	11.9	2.1	71.9	1.8	1.8					
Cracked wheat	10.1	11.1	1.7	73.8	1.7	1.6	8.1	1.5	68.7	1.2	1501
Rolled, steam cooked	10.6	10.2	1.8	74.1	1.8	1.5	8.5	1.6	70.7	1.1	1541
Shredded wheat	8.1	10.6	1.4	76.0	2.1	1.8	7.7	1.3	71.1	1.4	1521
Crumbed and malted	5.6	12.2	1.0	77.6	1.7	1.9	9.1	0.9	73.7	1.4	1623
Farina	10.9	11.0	1.4	75.9	0.4	0.4	8.9	1.3	72.9	0.3	1609
RYE:											
Whole grain	11.6	10.6	1.7	72.5	1.7	1.9					
Flaked, to be eaten raw	11.1	10.0	1.4	75.8		1.7	7.8	1.3	71.1	1.3	1526
BARLEY:											
Whole grain	10.9	12.4	1.8	69.8	2.7	2.4					
Pearled barley	11.5	8.5	1.1	77.5	0.3	1.1	6.6	1.0	73.0	0.8	1514
BUCKWHEAT:											
Flour	13.6	6.4	1.2	77.5	0.4	0.9	5.0	1.1	73.1	0.7	1471
CORN:											
Whole grain	10.9	10.5	5.4	69.6	2.1	1.5					
Cornmeal, unbolted	11.6	8.4	4.7	74.0		1.3	6.2	4.2	73.2	1.0	1728
Corn meal, bolted	12.5	9.2	1.9	74.4	1.0	1.0	6.8	1.7	74.6	0.8	1662
Hominy	10.9	8.6	0.6	79.2	0.4	0.3	6.4	0.5	78.7	0.2	1671
Pop corn, popped	4.3	10.7	5.0	77.3	1.4	1.3	7.9	4.5	77.8	1.0	1882
Hulled corn	74.1	2.3	0.9	22.2		0.5	1.7	0.8	21.8	0.4	492
RICE:											
Whole rice, polished	12.3	6.9	0.3	80.0		0.5	5.8	0.3	78.4	0.4	1546
Puffed rice	7.1	6.2	0.6	85.7		0.4	5.1	0.5	84.0	0.3	1639
Crackers	6.8	10.7	8.8	71.4	0.5	1.8	9.1	7.9	70.5	1.4	1905
Macaroni	10.3	13.4	0.9	74.1		1.3	11.6	0.8	72.2	1.0	1660



CORN CAKE

¾ c. cornmeal
1 c. flour
¼ c. sugar
Scant 1½ tbsp. baking powder
½ tsp. salt
1 c. milk
1 egg
1 to 3 tbsp. melted butter

Mix and sift dry ingredients; add egg well beaten, milk and the melted butter. Beat. Bake in a shallow buttered pan in a hot oven 20 minutes or more.

RICH CORN CAKE

1 c. corn meal
1 c. white flour
½ tsp. salt
¼ c. sugar
4 tsp. baking powder
2 eggs
1 c. milk
¼ c. melted butter

Mix and bake according to first recipe.

SOUR CREAM CORN CAKE

¾ c. corn meal
¾ c. flour
1 tbsp. sugar
½ tsp. salt
½ tsp. soda
1 c. sour cream
1 egg

Mix and sift dry ingredients; add well beaten egg and cream. Bake in a well buttered pan 20 to 30 minutes.

SOUR MILK CORN CAKE

1 c. corn meal
1 c. flour
2 tbsp. sugar
⅓ tsp. salt
1 tsp. soda
1 well beaten egg
1½ c. thick sour milk
2 tbsp. butter (melted)

Combine ingredients and bake according to Recipe 1.

VIRGINIA PONE

1 c. white corn meal
3 tsp. baking powder
1½ tsp. salt
1 c. hot boiled hominy
2 c. milk
2 eggs

Add butter and milk to hominy and cool.

Mix and sift dry ingredients; stir into the hominy and add the beaten eggs.

Put into a buttered earthen dish and bake in a moderate oven 45 minutes.

Cut in triangular pieces and serve.

APPROXIMATE MEASURE OF ONE POUND

4 cups of flour
4 cups entire wheat flour
2⅝ cups corn meal
2⅔ cups oat meal
6 cups rolled oats
4⅓ cups rye meal
2 cups rice
2 cups granulated sugar
2⅔ cups brown sugar
2¾ cups powdered sugar
3½ cups confectioners' sugar
2 cups milk
2 cups butter
2 cups finely chopped suet
2 cups chopped meat
3 cups raisins
4½ cups coffee
9 medium sized eggs

If tbsp. be substituted for cups the weight will be about one ounce.

TIME TABLE FOR BAKING BATTERS AND DOUGHS

Muffins, 12 to 25 minutes
Gingerbread, 25 to 45 minutes
B. P. Biscuits, 12 to 15 minutes
Cookies, 6 to 15 minutes
Layer Cake, 12 to 20 minutes
Raised biscuit, 12 to 30 minutes
Loaf Cake, 40 to 60 minutes
White bread, 45 to 60 minutes
Rye bread, 60 minutes
Beaten bread, 45 to 60 minutes

NOTES:

HOT WATER GINGERBREAD

1 c. molasses	2 to 2¼ c. flour	½ tsp. salt
½ c. boiling water	1 tsp. soda	4 tbsp. melted butter
	1½ tsp. ginger	

Add water to molasses. Mix and sift dry ingredients. Combine mixtures. Add butter and beat vigorously. Pour into a greased pan, or muffin tins, and bake 25 minutes in a moderate oven. One well-beaten egg may be added to the liquids.

SOUR MILK GINGERBREAD

1 tsp. soda	¾ c. molasses	½ tsp. salt
½ c. sour milk	2 c. flour	2 tbsp. to ¼ c. melted butter
	2 tsp. ginger	

Mix soda with sour milk, and add molasses. Sift remaining dry ingredients. Combine mixtures. Add butter and beat vigorously. Pour into greased pan, and bake 25 minutes in a moderate oven.

SOUR CREAM GINGERBREAD

¾ c. thick sour cream	2 eggs	1 tsp. ginger
½ c. molasses	2 c. flour	2 tsp. cinnamon
½ c. granulated sugar	¾ tsp. soda	

Beat together the eggs, sugar and molasses. Add half the cream. Dissolve the soda in the remaining half and add to the liquids. Mix and sift the dry ingredients. Combine mixtures and beat until smooth. Pour into a greased tin, and bake 30 minutes in a moderate oven.

FAIRY GINGERBREAD

½ c. butter	½ c. milk	2 tsp. ginger
1 c. light brown sugar	1⅞ c. bread flour	

Cream the butter, add sugar gradually and milk very slowly. Mix and sift the flour and ginger. Combine mixtures and mix with a knife until smooth. Spread very thinly on a buttered inverted pan or on a baking sheet. Bake in a moderate oven. Cut in squares before removing from pan.

NOTE.—Mixtures containing a large amount of molasses or sugar burn easily and should be baked in a moderate oven.

CAKE

Cake may be divided into Two Classes:

Without Butter.—Example: Sponge Cake, Angels Food, Sunshine Cake.

With Butter.—Example: Cup and Pound Cake.

GENERAL DIRECTIONS

See that the fire is right.

Have materials and utensils ready, including a plate on which to lay sticky spoons, etc.

Butter the pans; buttered paper may be used to line the pans or the pans may be buttered and then sprinkled with flour.

Measure dry ingredients, then liquid.

Cream the butter with a wooden spoon in an earthen bowl which may be warmed slightly.

Beat the yolks with a Dover egg-beater.

Beat the whites with a spider-web or a Dover egg-beater.

Fill pans two-thirds full with the cake mixture.

Sponge cake requires a more moderate oven than cake made with butter.

Cake is done when it shrinks from the sides of the pan, or when a clean broom straw put into the center comes out clean, or when pressed lightly with tip of finger the cake springs back into place.

TESTS FOR TEMPERATURE OF OVEN

If a piece of letter paper turns a deep yellow in 5 minutes, the oven is right for cake made with butter.

The same test may be used for sponge cake, the paper turning a light yellow in 5 minutes.

The time may be divided into four periods:

1. Rise and not brown.
2. Continue to rise and brown in spots.
3. Light brown.
4. Deeper brown and shrink from sides of pan.

TO REMOVE CAKES FROM PANS

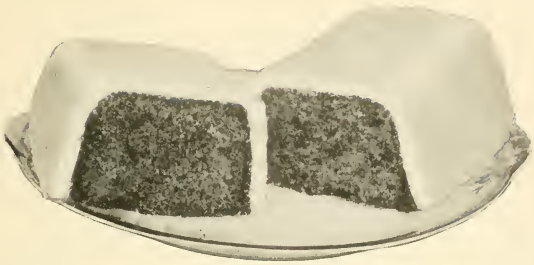
After allowing the baked cake to remain in the pan about 3 minutes, invert pans, on a board covered with a piece of old linen.

If cake sticks to the pan, place a damp cloth on the bottom of pan for a few minutes.

NOTE—If bread flour is used in place of pastry flour, take 2 tbsp. less for each cup.

Cover baking powder can, sugar jar, flour bin, etc., as soon as you have measured the necessary quantities.

NOTE



QUICK CAKE

½ c. soft butter
1⅓ c. brown sugar
2 eggs
½ c. milk

1⅔ c. bread flour
3 tsp. baking powder
½ tsp. cinnamon
½ tsp. nutmeg
} mix and sift

½ lb. dates or ½ c. raisins

Put ingredients in bowl in order given and do not stir until all have been added. Beat for three minutes. Bake in a buttered or greased pan from 35 to 45 minutes. May be baked in muffin tins.

CREAM CAKES

2 eggs
1 c. sugar
⅔ c. cream

1⅔ c. flour
½ tsp. salt
½ tsp. cinnamon

¼ tsp. mace
¼ tsp. ginger
2½ tsp. baking powder

Drop unbeaten contents of eggs into a bowl, add the sugar and cream, beat vigorously. Mix and sift remaining dry ingredients, add to the first mixture, beat until well mixed. Bake in a shallow pan or in small muffin tins.

NUT LOAF CAKE

½ c. butter
1 c. sugar
½ c. milk

1¾ c. flour
3 tsp. baking powder
3 egg whites (large)

1 c. nut meat
½ tsp. vanilla

Cream the butter; add sugar gradually, stirring until creamy between each addition. Mix and sift the flour and baking powder, add half of it and the milk, stir until thoroly blended; add the remaining flour, nut meat and vanilla, beat until thoroly mixed. Fold in the stiffly beaten whites. Bake in a buttered loaf tin for about 40 minutes.

CHOCOLATE LOAF CAKE

½ c. butter
1½ c. sugar
4 eggs
½ c. milk

1 tsp. vanilla
2 c. flour
4 tsp. baking powder
¼ tsp. salt

2 squares chocolate (melted) and mixed with ⅓ c. boiling water

Cream the butter, add the sugar gradually, add well beaten eggs, measure, mix and sift the flour, baking powder and salt, add ½ of it and the milk, beat until thoroly mixed. Add the remaining flour, chocolate mixture, and vanilla. Beat thoroly until well mixed. Bake in a buttered and paper lined large loaf in a tin about 45 minutes or until thoroly baked.

COMPARATIVE COST OF FOODS USED IN BATTERS AND DOUGHS

BOUGHT IN SMALL AND LARGE QUANTITIES

Article	Price for small quantity	Price for large quantity
Bread flour	05c. per lb.	85c. per 24½ lb. sack
Pastry flour	09c. per lb.	25c. per 3 lb. pkg.
Whole wheat flour	04c. per lb.	35c. per 10 lb. sack
Graham flour	04c. per lb.	35c. per 10 lb. sack
Corn meal	15c. per 3 lb. sack	35c. per 10 lb. sack
Oat meal	02c. per lb. in bulk	10c. per 1½ lb. pkg.
Rice	05c. to 12c. per lb.	
Cornstarch	08c. to 10c. per lb. pkg.	
Soda	05c. per ½ lb. pkg.	10c. per lb.
Baking powder	15c. to 25c. per ½ lb.	25c. to 40c. per lb.
Salt	05c. per 3 lb. sack	
Sugar	06c. per lb.	$1.40 per 25 lbs.
Brown sugar	06c. per lb.	$1.40 per 25 lbs.
Powdered sugar	10c. per lb.	25c. per 3 lbs.
Loaf sugar	10c. per lb.	25c. per 3 lbs.
Butter	20c. to 38c. per lb.	
Lard	10c. to 18c. per lb.	
Cottolene	30c. per 3 lbs.	
Butterine	14c. to 25c. per lb.	
Oleomargarine	14c. to 25c. per lb.	
Eggs	16c. to 40c. per doz.	
Milk	06c. to 8c. per qt.	
Coffee cream	20c. per qt.	
Whipping cream	40c. per qt.	
Cloves, ground or whole	40c. per lb.	
Ginger	40c. per lb.	
Cinnamon, grd. or whole	40c. per lb.	
Vanilla	35c. per 2 oz.	65c. per 4 oz.
Molasses	25c. per qt.	

NOTES:

2 c. flour	¾ tsp. salt	About ¾ c. milk
4 tsp. baking powder	1 to 2 tbsp. shortening	

Mix and sift dry ingredients. Rub in shortening with tips of fingers, or chop in with a knife. Add milk gradually to make a soft dough. Use a knife in mixing. Toss on a well-floured board. Pat and roll out to one inch thickness. Cut with a biscuit cutter dipped in flour. Place close together on a greased pan. Bake in a hot oven for 10 to 15 minutes.

DUMPLINGS FOR STEWS

Follow the directions for biscuits, using only 2 tsp. shortening. Place the dough by spoonfuls on the top of a boiling stew. Cover and boil 12 minutes without removing the cover.

QUICK BISCUITS

Add to the ingredients for biscuits enough more milk to make a thick batter (about 2 tbsp.); drop by spoonfuls onto a well greased pan, half an inch apart. The mixture should not be soft enough to spread. Bake in a hot oven.

TEA CAKES

Add to the dry ingredients for biscuits 4 tbsp. of sugar. Mix and beat. Bake in greased muffin tins 25 to 30 minutes. One egg may be added, using 2 tbsp. less milk.

BLUEBERRY CAKES

Make as directed for tea cakes, adding 1 c. of blueberries to the dry ingredients.

PIN WHEEL BISCUIT

2 c. flour	½ tsp. salt	⅓ c. stoned raisins, finely chopped
2 tbsp. sugar	2 tbsp. butter	2 tbsp. citron, finely chopped
4 tsp. baking powder	⅔ c. milk	½ tsp. cinnamon

Mix as baking powder biscuit mixture. Roll to ¼-inch thickness, brush with melted butter and sprinkle with fruit, sugar and cinnamon. Roll like jelly roll; cut off pieces ¾ inch thick. Place pieces on a buttered tin and bake in a hot oven about 15 minutes.

YEAST

YEAST is a small microscopic plant, which grows by budding.

Yeast grows in sprouting grains, finding in them favorable soil for growth.

The yeast plants are obtained from distilleries (explain).

Three kinds of yeast are used in bread-making: Liquid, Dry and Compressed.

Compressed yeast is probably the most frequently used.

In Compressed yeast the plants are mixed with potato starch and are pressed into cakes. These are cut into smaller cakes and are wrapped in tin foil to keep them moist and clean.

Food, air, heat and moisture are necessary for the growth of the yeast plant. Oxygen, some nitrogenous matter, salts or mineral matter and carbohydrates, especially sugary substances, are needed for its growth. The most favorable temperature is between 70 deg. and 90 deg. F. Cold checks the growth, while heat (130 deg. F. or more) will kill the plant.

EXPERIMENTS

Mix 2 tbsp. flour, 1½ tbsp. sugar and 1 yeast cake which has been mixed with ½ c. cold water. Pour this into three tumblers, A, B, and C.

No. I. To A add ½ c. boiling water. Let stand 15 minutes. Note results.

No. II. To B add ½ c. luke warm water. Let stand 15 minutes in a warm place. Note results.

No. III. To C add ½ c. cold water. Let stand 15 minutes in a cold place (32 deg. F.). Note results.

No. IV. Put C aside and let stand in a warm place one hour. Note results.

When yeast is mixed with flour and a lukewarm liquid and kept in a warm place the action of the yeast changes the starch of the flour into sugar and then into alcohol and carbon dioxide. This process is known as FERMENTATION.

The production of this carbon dioxide and alcohol is gradual, and as it forms, the dough is filled with bubbles (rises), and the elastic gluten of the flour gives to the dough its power to stretch and rise, as the gas expands, making the dough light and porous.

If fermentation is allowed to continue long, or at too high a temperature, so much alcohol is formed that the yeast stops growing and bacteria begin to grow; the alcohol unites with oxygen plus bacteria and the dough becomes sour.

When bread is baked the yeast plants are killed, the alcohol and carbon dioxide are driven off, the starch is cooked and a delicious flavor is developed.

NOTES:

SHORT CAKE NO. 1

2 c. flour	2 tbsp. sugar	¼ c. shortening
4 tsp. B. P.	¾ tsp. salt	About ¾ c. milk

Mix as B. P. biscuit dough (in Lesson 29B). Divide the dough into two equal parts. Shape one to fit a shallow buttered tin. Brush the top of the dough with melted butter, shape and place the second portion of dough over the first. Bake in a hot oven 20 minutes. Split. Put crushed and sweetened fruit on one half. Place the other half over it. More fruit may be placed on top. Strawberries, peaches, or stewed fruit may be used. Serve with whipped cream, if liked.

SHORT CAKE NO. 2

2 c. flour	½ tsp. salt	1 egg
4 tsp. B. P.	¼ c. sugar	About ⅓ c. milk
	¼ c. butter	

Mix same as Short Cake No. 1, adding the well beaten egg to the milk.

APPLE JOHN

Put stewed apple or other fruit sweetened and seasoned into a buttered pudding dish.

Cover the fruit with a short cake dough mixture and bake in a hot oven 20 to 30 minutes.

Invert onto the serving dish, sprinkle with sugar and cinnamon. Serve.

FRUIT DUMPLINGS

Make a dough according to Short Cake Recipe No. 1 or 2, using a little less milk. Pat and roll it ¼ in. thick. Cut into squares large enough to cover an apple or other fruit, which should have been steamed ten minutes if canned fruit is not used. Place fruit in the middle of the square piece of dough, sprinkle with sugar, cinnamon or nutmeg. Moisten the edges of the dough with cold water, and fold so that the corners will meet in the center. Press edges together gently. Place on a greased pan and bake in a rather hot oven until the crust and fruit are cooked. These may be steamed. Serve with lemon sauce (Lesson 9B).

GENERAL DIRECTIONS FOR MAKING BREAD

THAT REQUIRES NO KNEADING

The liquids used may be water, potato-water, milk, or milk and water.

Milk makes a more tender loaf of bread than water.

Yeast acts more quickly if a little sugar or glucose is added at first.

Salt and fats hinder the growth of yeast.

The water should be boiled. The milk should be scalded.

The hot liquids should be added to the salt, sweetening and shortening. This should be cooled before the yeast mixture is added.

One-quarter yeast cake is usually allowed to 1 pt. liquid if mixture is to rise over night.

One-half yeast cake is usually allowed to 1 pt. liquid if mixture is set in the morning.

One yeast cake is usually allowed to 1 pt. liquid if mixture is set in the morning and a quick process is required.

The mixture should be beaten thoroly to mix the ingredients and to enclose air.

The mixture should be covered to prevent a crust from forming. It should be put into a warm place, about 70 deg., until enough gas is formed to make it rise to double its bulk. It should be beaten the second time to distribute the gas bubbles evenly, and to make a fine-grained loaf. Well greased pans should be half filled with the mixture.

The mixture should rise in the pan until double its bulk and no more, and then be baked in a hot oven 45 minutes, or until brown on all sides, and until a hollow sound can be produced when the loaf is tapped with the finger. In baking a temperature of 400 to 450 deg. is required.

When baked, loaves should be placed so that air can circulate freely around them until cooled. They should be put away unwrapped in a tin box or stone jar.

NOTES:

WHOLE WHEAT BREAD NO 1

2 c. boiling water, or
1 c. scalded milk and 1 c. boiling water
2 tbsp. butter
1 tsp. salt
¼ c. sugar, or
⅓ c. molasses
¼ yeast cake, mixed with
2 tbsp. lukewarm water (over night) or
1 yeast cake mixed with ¼ c. lukewarm water if mixed in the morning.
1½ c. white flour
3½ c. whole wheat flour

Add salt, butter and sweetening to the hot liquid; cool, and when lukewarm add the yeast cake mixture and flour. Beat well, cover and let rise to double its bulk. Again beat vigorously, half filled greased bread pans with the mixture. Let rise until double its bulk. Bake in a hot oven 45 minutes. This mixture may be baked in gem pans.

WHOLE WHEAT BREAD NO. 2

2 c. scalded milk
¼ c. sugar or ⅓ c. molasses
1 tsp. salt
1 yeast cake mixed with
¼ c. lukewarm water
4⅔ c. coarse whole wheat flour

Follow directions for Whole Wheat Bread No. 1.

GRAHAM BREAD

2½ c. hot liquid (milk, water or water and milk)
⅓ c. molasses
1½ tsp. salt
¼ yeast cake mixed with ¼ c. lukewarm liquid
3 c. flour
3 c. graham flour

Follow directions for Whole Wheat Flour.

ROLLED OATS BREAD

2c. boiling water
½ c. molasses
½ tbsp. salt
1 tbsp. butter
½ yeast cake mixed with
½ c. lukewarm water
1 c. rolled oats
4½ c. flour

Add boiling water to oats and let stand 1 hour. Add molasses, salt, butter, yeast cake mixture and flour. Let rise to double its bulk, beat thoroly, turn into buttered bread pans; let rise again and bake 45 minutes.

YEAST MUFFINS

1 c. scalded milk
1 c. boiling water
2 tbsp. butter
1 tsp. salt
¼ c. sugar
¼ yeast cake mixed with ¼ cup lukewarm water
1 egg, beaten
4 c. flour

Add salt, butter and sugar to the hot liquid. When lukewarm, add the yeast mixture. Add the beaten egg and the flour. Beat thoroly. Cover and let rise over night (if ¼ yeast cake is used) or until double its bulk. Again beat and half fill muffin pans. Let rise again until pans are full. Bake in a hot oven 20 to 30 minutes.

SANDWICHES

GENERAL DIRECTIONS

Formerly a sandwich meant two slices of bread with meat between. Now the term sandwich is applied to many different kinds of encased dainties.

The Bread used for making Sandwiches should be at least a day old, that it may be cut properly. The bread may be white or brown; ex., white, whole wheat, rye, oatmeal or steamed brown bread.

The butter should be creamed, so that it may be spread easily. Cream the butter with a wooden spoon.

A very sharp knife should be used, so that the slices may be cut as thinly and evenly as possible.

Cut end slice from bread. Spread end of loaf with butter. Cut slice. Repeat, until the required number of slices have been cut.

Spread half the number of slices with the mixture used for filling; cover with the remaining slices and cut in squares, oblongs, triangles, etc.

If fancy cutters are used, shape before spreading, that no butter may be wasted.

If the sandwiches are prepared several hours before they are served, they may be kept fresh and moist by wrapping them in a dampened napkin, and leaving them in a cool place. Paraffin paper is often used for the same purpose.

Chopped eggs, chicken, veal, celery, olives or nuts mixed with salad dressing, make very good filling for sandwiches.

Salted meats make good filling for sandwiches.

The meat may be sliced, when it should be cut across the grain and in as thin slices as possible.

The meat may be chopped. The addition of a little mustard, Worcestershire or horse-radish sauce is good with beef or tongue. Capers, catsup, mint or tomato sauce is good with lamb.

Chopped peppers, celery salt, or finely chopped celery is good with chicken or veal.

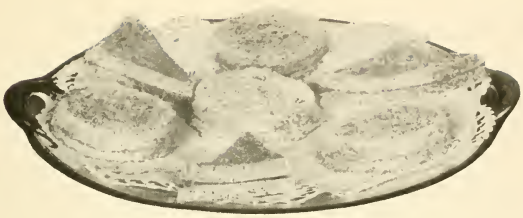
Lemon juice, onion juice or chopped parsley is good with fish.

Cress, cabbage, cucumbers, pimentoes or olives may be chopped and added to a salad dressing alone or with meat for filling.

Uncooked fruit fillings may be used. Dates or figs with nuts make very good sandwich filling.

Garnish the serving dish with parsley, lemon, celery tips, water cress, nasturtium leaves and blossoms, etc.

Coffee is the most desirable beverage to serve with sandwiches, then tea, and lastly cocoa, or chocolate, which should only be served with the dainty sweet sandwiches.



LETTUCE SANDWICHES

Put fresh, clean, crisp lettuce leaves between buttered slices of graham, brown or white bread, having a tsp. of Mayonnaise on each leaf.

CREAM CHEESE SANDWICHES

Spread buttered brown or graham bread with cream cheese, which has been mixed with butter or cream and chopped olives, pimentoes or nuts, and put a lettuce leaf that has been dipped in French Dressing between the slices.

FRUIT SANDWICHES

Remove stems and finely chop figs; add a small quantity of water, cook in a double boiler until a paste is formed, then add a few drops of lemon juice. Cool mixture and spread on thin slices of buttered bread. Sprinkle with chopped peanuts, walnuts or pecans, and cover with slices of buttered bread.

Dates and nuts chopped fine and mixed may be used.

HAM AND EGG SANDWICHES

Finely chop the ham and hard cooked eggs, mix with a salad dressing and put between buttered slices of bread.

EGG SANDWICHES

Chop hard cooked eggs. Mix them with salad dressing and spread between buttered slices of bread.

SLICED MEAT SANDWICHES

Put thin slices of meat, which have been cut across the grain, into slices of buttered bread; arrange thin slices of pickles, olives, red or green pepper on the meat, cover with a slice of buttered bread.

SALMON SANDWICHES

Put flaked salmon, mixed with finely chopped pickles and seasoned with salt and pepper, between slices of buttered bread. Mayonnaise dressing may be added to the filling.

TEST QUESTIONS

BREAKFAST

Menu I

Baked Apple

Corn Meal Mush — Sugar and Cream

Creamed Chipped Beef on Toast

Whole Wheat Bread and Butter

Cocoa

Menu II

Cooked Cereal with Dates

Ham Omelet with Green Pepper Rings — Creamed Potatoes

White Muffins

Cocoa

COST OF PREPARING ABOVE BREAKFAST FOR SIX PERSONS

Material	Quantity	Cost

INDIVIDUAL RECIPES—SEMESTER II

LESSON 19B

POTATO RECIPES

½ potato
Boil, rice and mash

To 1 potato use—
1 tsp. butter
2 tsp. hot milk
⅛ tsp. salt
Few grains pepper

1 potato
Bake and prepare puffs

LESSON 20B

OATMEAL MUSH

¼ c. oatmeal
½ c. boiling water
¼ tsp. salt

COOKED APPLE

1 apple
½ c. boiling water
2 tbsp. sugar

WHEATENA WITH DATES

3 tbsp. wheatena
1 tbsp. cold water
⅔ c. boiling water (enough)
¼ tsp. salt
2 dates, cut in pieces

LESSON 21B

RICE PUDDING

4 tbsp. steamed rice
¼ yolk, ¼ beaten white
1 tbsp. milk
1 tbsp. sugar
¼ apple, or ⅓ slice pineapple, or 4 raisins

FLOATING ISLAND

Follow recipe for Custard Sauce. (Lesson 14B)

LESSON 22B

PINOCHE

1 c. brown sugar (packed)
¼ c. milk
1 tbsp. butter
8 walnuts
Few drops vanilla

SEA FOAM

1 c. sugar
¼ c. boiling water
¼ c. corn syrup
⅓ c. nut meats
1 white of egg
¼ tsp. vanilla

CHOCOLATE FUDGE

1 c. sugar
⅓ c. milk
1 tsp. butter
½ sq. chocolate
¼ tsp. vanilla

PEANUT CANDY

1 c. sugar
1¼ c. peanuts
Few grs. salt

LESSON 23B

MACARONI WITH CHEESE

2 sticks macaroni
2 c. boiling water
½ tsp. salt
1 or 2 tsp. grated cheese
Sauce to moisten
2 tbsp. crumbs

LESSON 24B

WHOLE WHEAT GRIDDLE CAKES

1 tbsp. entire wheat flour
2 tbsp. flour
½ tsp. B. P.
Few grs. salt
1 tbsp. sugar
2 tbsp. beaten egg
2 tbsp. milk
¾ tbsp. melted butter

BREAD GRIDDLE CAKES

3 tbsp. STALE crumbs
3 tbsp. scalded milk
1 tsp. butter
½ tsp. B. P.
1 tbsp. beaten egg
1 tbsp. flour
1-16 tsp. salt

LESSON 25B

PLAIN MUFFINS

½ c. flour
½ tbsp. sugar
1 tsp. B. P.
⅛ tsp. salt
1 tbsp. beaten egg
4 tbsp. milk
2 tsp. melted butter

GRAHAM MUFFINS

6 tbsp. graham flour
2 tbsp. flour
1 tbsp. sugar
1 tsp. B. P.
¼ tsp. salt
1 tbsp. beaten egg
4 tbsp. milk
2 tsp. melted butter

LESSON 26B

CORN CAKE

3 tbsp. corn meal
4 tbsp. flour
1 tbsp. sugar
1 tsp. B. P.
⅛ tsp. salt
¼ c. or 4 tbsp. milk
1 tbsp. egg
2 tsp. melted butter

LESSON 27B

HOT WATER GINGERBREAD

2 tbsp. molasses
1 tbsp. boiling water
4¼ tbsp. flour
⅛ tbsp. soda
⅙ tsp. ginger
$\frac{1}{16}$ tsp. salt
1 tsp. butter
1 tsp. beaten egg

LESSON 29B

B. P. BISCUITS

⅓ c. flour
⅔ tsp. B. P.
⅙ tsp. salt
1 tsp. butter
2½ tbsp. milk (about)

Demonstrate Pin Wheel Biscuits

LESSON 30B

SHORT CAKE NO. 2

⅓ c. flour
⅔ tsp. B. P.
2 tsp. sugar
1-12 tsp. salt
2 tsp. butter
2 tsp. egg
About 2 tbsp. milk

Enough for 1 layer

LESSON 31B

BEATEN BREAD

2 tbsp. milk
2 tbsp. water
1 tsp. butter
⅙ tsp. salt
2 tsp. (level) molasses
3 tbsp. flour
½ c. whole wheat flour
1 yeast cake mixed with
2 tbsp. of the liquid given above.

LESSON 32B

SANDWICHES

1 slice bread
Cut in fancy shapes
1 tbsp. filling
1 tsp. butter

Three or four kinds of filling

NOTES:

ACID AND SALT SUPPLYING FOODS

Fruit and Vegetables are the principal sources of acid and salt supplying foods. They are also found in fish, meat and cereals.

The human body includes compounds of lime, potassium, sodium, iron and common salt, the latter of which is found in every part of the body, except the enamel of the teeth.

Foods containing mineral matter are necessary for the formation of the bones, teeth, nails, hair, and also to aid digestion, circulation, etc.

Phosphorus and lime, which are so necessary in the formation of bones and teeth, are found abundantly in the cereals.

The cereals should, therefore, form an important food in the diet of growing children.

FRUITS

Fruits are seed vessels of plants. They contain a large amount of water, cellulose, sugar, acids and salts. They not only refresh and cool the system, but stimulate the appetite and act as blood purifiers.

The cellulose helps to carry off waste matter. The acids destroy germs in the body. People who eat a large amount of fruit are seldom ill.

Bananas, dates and figs are rich in sugary and starchy substances and form the staple food in the countries where they grow.

Prunes are dried plums. Raisins are dried grapes.

Eat only sound, ripe fruit. Unripe fruit, or fruit that has been kept a little too long, may be cooked to make it safe for eating.

Do not eat acid fruits with milk or cream.

VEGETABLES. See Lesson 4B.

GENERAL DIRECTIONS FOR CANNING AND PRESERVING FRUIT

Select fresh, firm and not over-ripe fruit. Prepare the fruit according to kind; remove stems, pare, peel, stone or core.

For canning fruit allow ½ of the weight of the fruit in sugar and three cups of water to each pound of sugar. Boil the water and sugar five minutes to make a thin syrup; then cook a small quantity of the fruit at a time in the syrup until soft. Pack the fruit closely in hot sterilized fruit jars (see Lesson 5B), and pour on enough syrup to overflow jars. Use the blade of a silver knife to push fruit away from jar to let out the air bubbles. Put on sterilized covers and fasten securely.

Preserving Fruit, as ordinarily used, means the cooking of fruit with from ¾ to its own weight of sugar with little or no water used, according to the fruit.

NOTE

Fruits should be cooked in granite, earthen-ware, or porcelain lined kettles, and silver, wooden or granite spoons used. If cooked in tin or iron-ware, poisonous substances may be formed.

CANNED PEACHES

2 c. water
3 lbs. peaches
1 lb. sugar
8 cloves and few shavings lemon rind (if liked)

Pour boiling water over peaches, allow them to stand just long enough to loosen the skins, so they can be removed easily.

Remove skins, cut in halves, and unless cooked at once, drop into enough cold water to cover, to prevent discoloration. Add a few peach stones to the boiling syrup. Cook the peaches in the syrup until soft, pack them closely in hot sterilized fruit jars, and pour over them the boiling syrup. Cover securely.

Pears, cherries, apples, yellow tomatoes and plums may be canned like the peaches. Plums and tomatoes should be pierced with a needle to keep them from bursting.

STRAWBERRY PRESERVES

4 lbs. strawberries 3 lbs. sugar 3 c. water

Pick over, wash, drain and hull the berries. Weigh. Boil the sugar and water 15 minutes to make a syrup. Fill sterilized jars with the berries, cover with the syrup. Let stand 15 minutes. Add more fruit. Adjust rubbers and covers. Put on a rest, folded paper, or a folded cloth in a kettle of cold water. Heat water to boiling point, and cook slowly one hour. Screw on covers securely.

Raspberries and Blackberries may be preserved in the same way.

SWEET PICKLED PEACHES

8 lbs. fruit
5 c. vinegar
¼ lb. ginger root
4½ lbs. sugar
1 oz. stick cinnamon
½ oz. whole cloves

Prepare fruit as for canning. Boil the vinegar, add sugar and the seasonings (tied in a piece of cheese cloth) 10 minutes. Cook the peaches, a few at a time, in the syrup until soft. Put fruit into sterilized jars, fill to overflowing with syrup. Screw on covers securely. The ginger-root may be omitted.

Pears, plums, apples, crab-apples or quinces may be prepared in the same way.

SWEET WATER MELON PICKLES

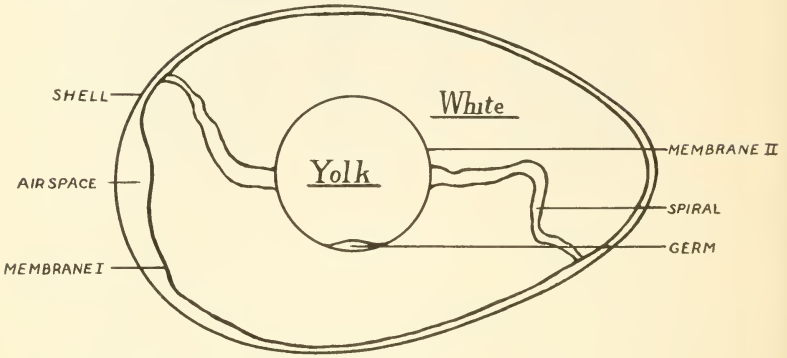
7 c. rind of melon
3 c. vinegar
2 c. sugar
⅙ cup cloves
⅓ cup stick cinnamon

Cut rind in strips, remove the green and pink portions. Soak in alum water, allowing 2 tsp. powdered alum to each qt. of water. Heat slowly to boiling point. Cook 10 minutes. Drain, cover with ice water, let stand 2 hrs., drain again. Boil the vinegar, sugar and seasonings (tied in cheese cloth) 10 minutes. Add the rind and cook until tender. Put in jars and cover with syrup.

PROTEIDS—TISSUE BUILDERS

1. EGGS

The eggs of many birds, both wild and domestic, are used for food, but the eggs of the domestic hen are most commonly used.



A hen's egg consists of eight parts:

1. SHELL (carbonate of lime).
2. MEMBRANE I (which lies next to the shell).
3. WHITE (albumen and water).
4. MEMBRANE II (Which encloses the yolk).
5. YOLK (oil, albumen, mineral matter and water).
6. TWO SPIRAL CORDS (which hold the yolk in place).
7. EMBRYO (the little mass which lies next to the yolk).
8. AIR SPACE (which is between Membrane I and the round end of the shell).

AVERAGE COMPOSITION OF EGGS

Proteids	14.9 per cent	Mineral matter	1. per cent
Fat	10.6 per cent	Water	73.5 per cent

TYPICAL FOOD

Eggs form a highly nutritious, concentrated food; and as they contain all the elements in the right proportion to support the body, they are classed as a typical food.

They should be eaten in combination with foods that are rich in starch, such as bread, potatoes, rice, etc. The digestive organs will then have more to act upon, a certain amount of bulk being necessary.

A pound of eggs (nine) is considered equivalent in nutritive value to a pound of beef. Eggs are cheap for the healthy person only when the cost does not exceed 16 cents per dozen.

Digestion.—All proteids are acted upon by the rennin or pepsin ferments in the gastric juice of the stomach and the trypsin of the pancreatic juice in the small intestines.

EXPERIMENTS WITH ALBUMEN

Break an egg, separate the yolk from the white. Divide the white into three portions (A, B, C).

Ex. I. Half fill a glass with cold water, add A. Beat thoroly. Note results.

Ex. II. Half fill a small saucepan with water; place over the fire and when the water boils, add B. Boil 2 minutes. Note results.

Ex. III. Half fill a small saucepan with boiling water; add C. Place where it will neither simmer nor boil. Let stand 5 minutes. Note results.

I. **Cold water dissolves albumen.**

II. **Heat coagulates albumen. Albumen cooked in boiling water is tough and horny.**

III. **Albumen cooked in water below simmering point is jelly-like and tender.**

NOTE.—Change of albumen from a liquid to a solid state is called coagulation.

GENERAL DIRECTIONS FOR COOKED EGGS

Have ready a saucepan containing boiling water. A general rule is to allow one pint of water to two eggs, and an extra cupful for each additional egg. Place the eggs in the water with a spoon and cover the saucepan.

SOFT-COOKED EGGS

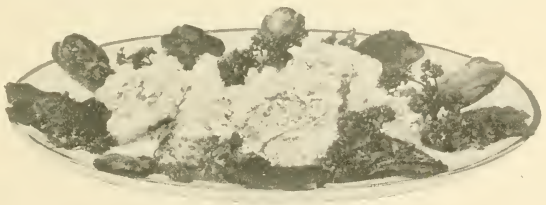
Place the eggs in a saucepan containing boiling water, let them stand on back of range from 8 to 10 minutes.

HARD-COOKED EGGS

Place the eggs in a saucepan containing boiling water, and let them stand on back of the range from 40 to 45 minutes.

POACHED EGGS

Prepare a slice of buttered toast for each egg, and keep it hot. Have ready a shallow greased pan containing boiling salted water to cover the eggs. Break each egg separately into a saucer and slip it gently into the water, being careful that the water does not reach the boiling point. Cook until the white is firm and a film forms over top of the yolk. Remove the eggs from the water with a skimmer or a griddle cake turner. Drain, trim off rough edges, and place each egg on a slice of toast.



Scrambled Eggs with Bacon

SCRAMBLED EGGS

Two tbsp. butter; 5 eggs; ½ c. milk; 1½ tsp. salt, and few grs. pepper. Beat eggs slightly, add salt, pepper and milk. Melt the butter in a frying pan, pour in the egg mixture, and cook slowly, continually scraping from bottom of pan. When creamy, turn into a hot dish and serve at once. Serve with ham or bacon, etc.

STUFFED EGGS

Cut hard boiled eggs in halves lengthwise or crosswise. Remove yolks and mash them. Add half the amount of deviled ham and enough melted butter to make of consistency to shape. Shape into balls and refill whites. Form remainder of mixture into a nest on circular pieces of bread toasted on top side. Arrange eggs on the nest. Pour over them white sauce and sprinkle with buttered crumbs. Bake in moderate oven until brown.

NOTES:

PROTEIDS—TISSUE BUILDERS

I. EGGS—Continued

Careful experiments show that albumen begins to coagulate at 134 deg. F., and becomes jelly-like at 160 deg. F. When cooked at 160 deg. to 185 deg. F. the albumen is rendered tender and readily digestible. **Therefore, eggs should be cooked at a low temperature.**

WHY EGGS SPOIL

Eggs spoil easily. Owing to the porous structure of the shell, **bacteria** enter, either from the place where the eggs have been lying, or by means of the air that rushes in as the water evaporates. These grow and decomposition takes place.

FRESH EGGS

1. A fresh egg has a thick, rough shell.
2. A fresh egg sinks when dropped into a basin of cold water. (See illustration.)
3. A fresh egg looks clear when held between the eye and a strong light.

HOW TO PRESERVE EGGS

When eggs come from the market they should be washed and kept in a cool, dry place. Eggs may be kept for a long time by packing them, small end down, in substances that will exclude air. Example: bran, salt, etc. The U. S. Department of Agriculture recommends liquid glass as a preservative. Put fresh eggs into stone crocks, cover with a mixture of one part liquid glass to nine parts water. Cover jars and keep in a cool place.

When using several eggs, break each one separately into a cup. In this way a poor egg may be detected. The yolk may be kept by covering with cold water, or cover dish with dampened paper.

HOW TO BREAK AN EGG

Hold the egg in the left hand and crack the shell by striking it sharply with a knife.

TO SEPARATE THE YOLK FROM THE WHITE

Slip the yolk from one piece of shell to the other several times. Slip the white onto a plate or deep platter and drop the yolk into a bowl.

FOR SLIGHTLY BEATEN EGG, yolk or white, use a fork.

FOR A WELL BEATEN YOLK use a Dover egg-beater.

FOR A WELL BEATEN WHITE use a wire whisk beater.

DO NOT ALLOW THE BEATEN WHITE TO STAND, but use it immediately.

Do not stir it after beating.

NOTE.—Liquid glass may be purchased at any drug store.

YELLOW CUSTARD

4 c. scalded milk
4 eggs (if baked in individual custard cups)
6 eggs (if baked in a large mould)
½ c. sugar
¼ tsp. salt
Few grains nutmeg or cinnamon

Beat eggs slightly; stir in the sugar and salt; add the scalded milk slowly to the yolk mixture; strain into buttered custard cups and sprinkle a little nutmeg on top of each. Set cups in a pan containing hot water, and bake in a moderate oven until custard is firm.

If a clean cut can be made with a knife, the custard is done.

Do not let the water in the pan reach the boiling point during baking. Why?

Baked Caramel Custard with Whipped Cream

CARAMEL CUSTARD

4 c. scalded milk
5 eggs
½ tsp. salt
1 tsp. vanilla
1 c. sugar

Melt the sugar to a light brown syrup in a saucepan over a hot fire. Add scalded milk and cook until free from lumps. Pour this into the slightly beaten eggs. Add salt and flavoring, then strain into a buttered mould. Bake as Yellow Custard.

WHITE CUSTARD

Whites of 4 eggs
¼ c. sugar
⅛ tsp. salt
2 c. scalded milk
½ tsp. vanilla

Beat the whites slightly; stir in the sugar and salt. Pour on the scalded milk gradually. Add vanilla, strain into a buttered baking dish. Bake as Yellow Custard. Shredded cocoanut may be added.

CHOCOLATE CUSTARD

½ sq. unsweetened chocolate
½ c. sugar
2 tbsp. water
2 c. milk
3 eggs
⅛ tsp. salt
½ tsp. vanilla

Scald the milk; melt the chocolate, stir in half the sugar, add the water and cook until smooth and glossy. Add the scalded milk to the chocolate mixture, stirring until well mixed. Beat the eggs slightly. Add remainder of sugar and the salt. Pour into it the chocolate and milk mixture; strain into buttered moulds. Bake as Yellow Custard.

CHEESE CUSTARD

1 c. milk
1 egg
2 tbsp. cheese
⅛ tsp. salt
Spk. pepper

Scald the milk; stir into it the beaten egg, add the cheese, salt and pepper. Bake as Yellow Custard.

CUSTARD BREAD PUDDING

May be made by pouring any of these mixtures over buttered slices of toast and baked according to directions for Baked Yellow Custard.

PROTEIDS—TISSUE BUILDERS

MILK

MILK is the natural food of the young of all the higher animals.

IT IS A PERFECT FOOD for the infant, as it contains all the food principles in the right proportion to fully nourish it.

Milk should be the chief food for a child at least until the first teeth appear.

COMPOSITION

Proteids	3.3 per cent
Carbohydrates (milk sugar, called lactose)	5. per cent
Fats	4. per cent
Mineral Matter	.7 per cent
Water	87. per cent

The greatest benefit is obtained from milk when it is heated to blood heat and taken at regular intervals between meals, and then it is more easily digested when taken in sips. Small curds are then formed in the stomach. Large curds are formed when the milk is taken hurriedly in large quantities.

Milk should be heated over hot water. Boiling milk coagulates the albumen and makes it less digestible.

BUYING MILK

Do not buy cheap milk. Good milk is a yellowish white liquid, and tastes slightly sweet. MILK undiluted with water clings to the glass.

MILK should have no sediment and should not look blue around the edges. A good plan is to buy MILK in the evening and let it stand over night in order to let the cream rise. Skim and serve the cream with the cereal and coffee for breakfast. Use the SKIMMED MILK for COOKING and DRINKING purposes.

Milk quickly absorbs odors, and should be kept in clean vessels (glass or earthenware) in a cool, clean place.

BACTERIA grow and multiply very rapidly in MILK; therefore the utmost cleanliness in handling is necessary.

MILK PRODUCTS

When milk stands, the fat globules rise to the top in the form of CREAM. Cream is put into a churn and shaken and the globules of cream gather together as BUTTER, and the liquid left is called BUTTERMILK.

An acid added to milk coagulates the casein forming a CURD separating it from the liquid, then called WHEY. The CURD is then made into CHEESE which contains condensed nourishment (casein and fat of milk).

CONDENSED MILK is prepared by evaporating milk to about ½ to ¼ of its volume.

MILK is preserved by STERILIZATION, PASTEURIZATION and EVAPORATION.

NOTES:

PASTEURIZED MILK

Sterilize bottles by putting them edgewise into cold water; bring slowly to boiling point and boil twenty minutes. Fill the sterilized bottles ¾ full of milk and cork with cotton which has been baked in the oven, or with sterilized rubber corks. Place bottles on a rest or on several thicknesses of paper in a pan. Fill pan with enough cold water to reach as high as the milk in the bottles. Heat gradually to 160 deg. or until small bubbles appear in the milk next the glass. Keep at this temperature 40 minutes. Cork the bottles quickly and keep in a cold place. Do not remove corks until ready to use the milk.

RENNET CUSTARD OR JUNKET

1 qt. milk
4 tbsp. sugar
1 tsp. vanilla
¼ tsp. salt
1 tbsp. liquid rennet or 1 junket tablet dissolved in 1 tbsp. water

Heat the milk until lukewarm; add the sugar, salt, and flavoring, stirring until the sugar is dissolved. Add the junket water and pour into the serving dish. Chill. Serve with plain or whipped cream.

WHIPPED CREAM

1 c. thick cream
3 tbsp. sugar
½ tsp. vanilla

Pour the cream into a bowl and set in a pan of ice water. Whip with a wire whisk or Dover egg-beater until stiff enough to hold its shape. Add sugar and vanilla. Do not beat the cream too long.

SOUR MILK CHEESE OR COTTAGE CHEESE

1 qt. sour milk
1 tsp. butter
¼ tsp. salt
2 or 3 tbsp. cream

Heat the milk slowly until the curd separates from the whey. Strain thru a piece of cheese cloth. Squeeze curd until quite dry. Put curd in a bowl and with a spoon or fork mix it with salt, butter and cream. Form into balls. These may be rolled in chopped parsley. The curd may be separated from the whey by adding one Rennet Tablet to a quart of milk heated to 100 deg. F. Then beat to separate curd from whey.

PROTEIDS—TISSUE BUILDERS

Cheese Straws

CHEESE

CHEESE is the curd of milk separated and pressed.

Cheese is made chiefly from the milk of cows. Goats' milk is sometimes used.

Cheese may be made from whole milk, to which cream has been added, or from skimmed milk.

The curd may be separated by allowing the milk to stand until it is sour. It is then heated slightly and the curd separated from the whey. It may be prepared by the action of rennet. The curd is then pressed to remove the whey. After pressure the curd is then set aside and kept at a favorable temperature to ripen, the time required varying from a short time to three or four years. New flavors are developed and the texture altered during the ripening process. The ripening is due to bactria and moulds.

Cheese made from full milk is half fat. Cheese made of skimmed milk is sometimes filled by the addition of cheap fat, lard, etc.

Filled cheese is greasy when warmed, and does not keep well.

Various brands of cheese take their names from the places where they are made.

SKIM-MILK Cheese—Parmesan, Edam and Gruyen.

MILK Cheese—Gorgonzola, Cheddar, Gloucester, Cheshire.

MILK and CREAM Cheese—Double Gloucester and Stilton, Neufchatel, Cream Cheese, Camembert and Brie, Brick Cheese, Roquefort.

ONE POUND of cheese contains as much nutriment as two pounds of meat.

It is a highly concentrated proteid food, and therefore should be eaten in small quantities with carbohydrates.

Cheese should be kept covered.

Grate the cheese when it becomes hard and dry.

Any kind of cheese is made more digestible by being finely divided or dissolved and mixed with other foods, as in cooking.

Cheese may be added to several scalloped dishes (ex., macaroni and cheese) or used as flavoring for soups.

Cheese is sufficiently cooked when melted; long cooking makes it tough.

Soda added to dishes prepared with cheese makes the cheese dissolve more readily, thereby making it more digestible. When adding soda, use ⅛ tsp. to a cupful of grated cheese.

NOTES:

TOASTED CHEESE SANDWICHES

Prepare toast; dip quickly in hot salted water. Spread slices with grated cheese; place in a pan in the oven long enough to melt the cheese.

Put the slices together as sandwiches.

WELSH RABBIT

½ lb. cheese (grated)	Few grs. cayenne	2 eggs
¼ tsp. mustard	⅛ tsp. soda	1 tbsp. butter
½ tsp.salt	½ c. milk	Crackers or toast

Mix the first six ingredients; cook over hot water until cheese is melted; pour this onto the slightly beaten eggs, add the butter and cook over hot water, stirring constantly, until thick and smooth. Pour over slices of toast or crackers and serve at once.

CHEESE FONDUE

1 c. scalded milk	Few grains pepper	¼ tsp. mustard (if liked)
1 c. soft bread crumbs	1 tbsp. butter	3 eggs
2 c. cheese (cut fine)	½ tsp. salt	

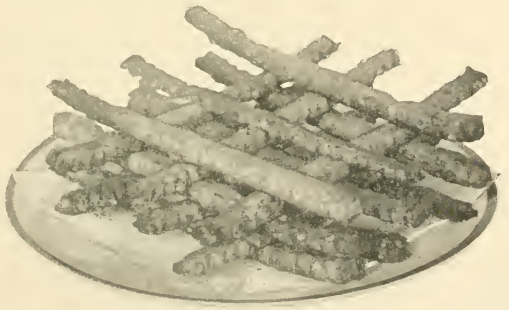
Mix first seven ingredients, add well beaten yolks. Cut and fold in the stiffly beaten whites. Pour into a buttered baking dish and bake in a moderate oven twenty minutes, or until done.

Baked in ramekin dishes—called cheese ramekins.

CHEESE SOUFFLE

2 tbsp. butter	⅓ tsp. salt	⅔ c. grated or shaved cheese
2 tbsp. flour	Few grs. cayenne	2 eggs
½ c. scalded milk		

Melt the butter, add flour, and when thoroly mixed add gradually the scalded milk, stirring all the time until smooth and thickened. Then add seasonings and cheese. Remove from fire, add the well beaten yolks, cool; fold in the stiffly beaten whites. Pour in a buttered baking dish and bake about 30 minutes. Serve immediately.



CHEESE STRAWS

5 tbsp. flour	½ tsp. butter	½ c. grated cheese
⅛ tsp. salt	½ c. soft bread crumbs	2 tbsp. milk
Few grs. cayenne or paprika		

Add salt and pepper to the flour, chop in the butter; add crumbs and grated cheese. Mix thoroly, then add milk to make a dough. Knead until smooth. Roll ¼ inch thick and cut in strips. Lay them on buttered paper in a pan and bake 10 minutes or until light brown in a moderate oven. Parmesan is good for cheese straws.

FREEZING

ICE and SALT form a freezing mixture, several degrees below the freezing point of water.

SALT melts the ice, withdrawing heat from the contents of the can, and the melting ice dissolves the salt. The smaller the pieces of ice, the more quickly the change to liquid and the more salt used, the more quickly the mixture is frozen. If too much salt is used, however, the frozen mixture will be coarsely grained. Three parts ice to one part salt is the best proportion for a smooth, fine-grained cream.

DIRECTIONS FOR FREEZING

Scald can, cover and dasher, then chill.

Place the can of the freezer in the pail; put in the dasher, and pour in mixture to be frozen. Cover and adjust top. Turn crank to make sure can fits in socket.

Fill the space between the can and pail with alternate layers of ice and salt, allowing three measures of ice to one of salt.

The ice and salt should come a little higher in the pail than mixture to be frozen.

The can should not be more than ¾ full, as the mixture expands in freezing.

Turn the crank slowly at first, then turn crank more rapidly, adding more salt and ice if needed.

Do not draw off the water, unless it stands so high that there is danger of it getting into the can.

After freezing, draw off the water, remove dasher, and with spoon push solidly.

Put cork in opening of cover.

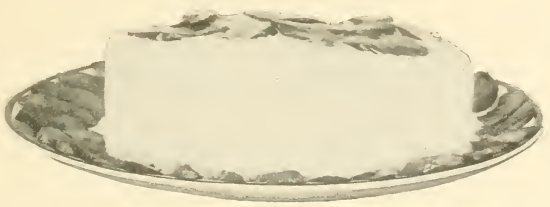
Repack, using four parts of ice to one of salt.

Place on top newspapers, an old blanket, or a piece of carpet.

HOW TO MAKE ICE CREAM OR ICES WITHOUT A FREEZER

Cover bottom of pail with crushed ice. Put in baking powder can, tumbler, or lard pail containing mixture to be frozen, and surround with ice and salt. Turn can or tumbler with hand occasionally, and as soon as it begins to freeze, scrape frozen mixture from sides of can with a knife or spatula, and beat mixture with spoon, continuing until mixture is frozen.

Ice Cream Served in Canteloupe



Vanilla Ice Cream with Sliced Peaches

VANILLA ICE CREAM—I

1 qt. thin cream	¾ c. sugar	1½ tbsp. vanilla

Mix ingredients and freeze.

VANILLA ICE CREAM—II

1½ c. scalded milk	¾ c. sugar	1 qt. thin cream
1 tbsp. flour	⅛ tsp. salt	2 tbsp. vanilla
	1 egg	

Mix flour, sugar and salt; add egg slightly beaten, and milk gradually. Cook in double boiler 20 minutes, stirring constantly at first. Should custard have curdled appearance, it will disappear in freezing. When cool, add flavoring and cream. Strain and freeze. Fresh fruit may be cut up and served with the ice cream.

CHOCOLATE ICE CREAM

Melt 4 oz. unsweetened chocolate; add 1 c. water and boil 5 min. Add this to Vanilla Ice Cream mixture.

STRAWBERRY ICE CREAM

1 qt. thin cream	1 c. sugar	1 box strawberries

Wash and hull berries. Sprinkle with sugar. Let stand one hour. Mash and rub thru strainer. Add the cream and freeze.

CARAMEL ICE CREAM

Prepare same as Vanilla Ice Cream II, using 1½ c. sugar. Caramelize 1 cupful of the sugar according to the directions for Caramel Custard in Lesson 36B.

NUT ICE CREAM

Add chopped nuts to Vanilla Ice Cream mixture.

MILK SHERBET

2 c. sugar	½ c. lemon juice	1 qt. milk

Mix the sugar and strained lemon juice. Pour the milk into the freezer-can, add the lemon mixture. Stir thoroly, cover, freeze.

PROTEIDS—TISSUE BUILDERS

MEAT

DEFINITION.—MEAT is the name given to the flesh of animals used for food.

AVERAGE COMPOSITION OF LEAN BEEF

Proteids	18.36
Gelatin	1.64
Extractives	1.90
Fat	.90
Mineral	1.30
Water	75.90
	100.00

KINDS

Beef is the meat of the steer, ox or cow, and is the most nutritious of animal foods. The best beef is obtained from a steer four or five years old.

Veal is the meat of a young calf killed when six or eight weeks old. The meat from a younger calf is unwholesome. Veal is less nutritious than beef, and is not so easily digested.

Mutton is the name given to the meat of sheep. Mutton is considered almost as nutritious as beef. The fat of mutton is not as easily digested as the fat of beef. Good mutton comes from a sheep about three years old.

Lamb is the name given to the meat of lambs. Lamb is less nutritious than mutton. Young lamb, when killed from six to eight weeks old, is called spring lamb. Lamb one year old is called yearling.

Poultry includes chicken, turkey, geese, duck, etc.

Game incudes wild fowl and wild animals, as partridges, grouse, quails, pigeons, venison, etc.

SELECTION

MEAT should be uniform in color, the flesh should be firm and elastic to the touch.

The flesh of beef should be of a bright red color, and intermingled with fat that is yellowish.

MUTTON should be dull red in color, and the fat white.

LAMB and VEAL should be lighter in color and the flesh less firm than in beef.

Meat should be removed from the paper as soon as it comes from the market.

Meat should be kept in a cool place.

Always wipe meat with a damp cloth.

METHODS OF COOKING

The usual Methods of Cooking are boiling, stewing, steaming, broiling, roasting, baking, frying sauteing, braising and fricasseeing.

Boiling.—Cooking in boiling water.

Stewing.—Cooking for a long time below the boiling point.

Steaming.—Cooking over the steam of boiling water.

Broiling.—Cooking over a glowing fire.

Roasting.—Cooking before a glowing fire (as commonly used, is the same as baking).

Baking.—Cooking by the dry confined heat of the oven.

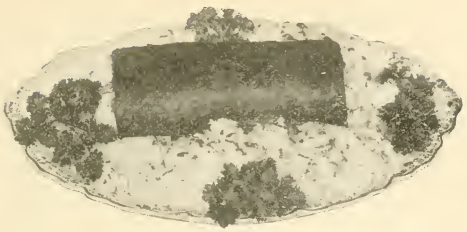
Frying.—Cooking in hot fat deep enough to cover the article to be cooked.

Sauteing.—Cooking in a small quantity of fat (commonly called frying).

Braising.—A combination of stewing and baking.

Fricasseeing.—A combination of frying and stewing.

NOTES:



Beef Loaf with Riced Potatoes

BEEF LOAF

2 lbs. beef cut from the round
½ tsp. onion juice
1 tsp. salt
¼ tsp. pepper
1 beaten egg
1 tbsp. chopped parsley
2 in. cube suet
1 c. bread crumbs
½ c. milk

Wipe the meat with a cloth. Put thru a meat chopper with the suet. Add the seasonings; knead; add the crumbs, well beaten egg, and gradually the milk. Knead until spongy. Shape into a loaf. Place in a pan lined with thin slices of salt pork fat or spread surface generously with suet. Dredge with flour, season with salt and pepper. Bake 40 minutes. Baste every 5 minutes with 1 tbsp. butter or melted suet mixed with 1 c. boiling water. This mixture may be steamed 2 hours.

Veal loaf may be prepared in the same way, substituting veal for beef.

CHICKEN LOAF

4 lb. chicken
1 tsp. salt
⅛ tsp. celery salt
¾ c. milk
⅛ tsp. paprika
½ c. bread crumbs
3 eggs

Force the chicken meat thru the meat chopper. Work in the seasoning and crumbs with a wooden spoon. Add the well beaten yolks, and then the milk gradually. (Taste and season more highly if necessary.) Fold in the stiffly beaten whites and bake in a well buttered mold placed in a pan of hot water, or steam 2½ hours.

MEAT LOAF

1 lb. beef
1 lb. veal
1 lb. pork
1½ tsp. salt
½ tsp. pepper
1 slice chopped onion
1 tbsp. chopped parsley
1 beaten egg
1½ c. bread crumbs
¾ c. milk

Follow directions for Beef Loaf.

POTATO NESTS

Prepare mashed potatoes according to Lesson 19B. Shape into nests, brush with slightly beaten egg and brown in oven. (Take beef loaf mixture, shape to imitate little birds, using cloves for eyes, bake 10 min. in oven, basting frequently. Serve in nests.)

TOMATO SAUCE

¾ c. water
¾ c. tomato
1 slice onion
2 cloves
½ tsp. salt
⅛ tsp. pepper
2 tbsp. butter
2 tbsp. flour

Boil the first four ingredients 5 min. Strain. Brown the butter, add the flour, brown the two. Then add gradually the hot liquid. Boil. Season to taste.

PROTEIDS—TISSUE BUILDERS

METHODS OF COOKING MEAT

OBJECT—

1. To extract the juices, as in Soups, Broths and Beef Teas.
2. To retain the juices, as in Broiling, Roasting, Boiling and Frying.
3. Combination of both, as in Stewing, and Braising, where part of the juices are retained and part extracted.

EXPERIMENTS

1. Put a piece of beef (2 in.) into a glass half filled with cold water. Let stand 20 min. Does the water look just the same?

2. Scrape or cut a piece of beef (2 in.) into small pieces. Put into a glass half filled with cold water. Compare with No. 1.

3. Put a small piece of beef into a heavy glass. Pour on boiling water. What happens?

What effect does COLD water have on albumen?

What effect does BOILING water have on albumen?

HOW TO PREPARE BEEF TEA

1 lb. lean beef — 1 pt. cold water — Salt to taste

Scrape or cut the meat into small pieces and put it with the cold water into a glass jar or top of a double boiler. Let stand 30 min. Place on a trivet in a kettle containing cold water, or over lower part of double boiler. Heat slowly. Let stand at a low temperature (130 deg. F.) 2 or 3 hrs. Strain thru a coarse strainer and press the meat to obtain all the juices. Beef tea prepared below coagulating point of albumen is a nutrient.

BROILED BEEF ESSENCE

One lb. steak from the round and cut ¾ in. thick. Wipe meat, place in a heated broiler. Broil 3 min., put on hot plate, cut into small pieces. Express the juice with a lemon squeezer, potato ricer, or vegetable press, and turn into a cup. Set in a dish of hot water.

DIRECTIONS FOR SOUP-MAKING

2 lbs. raw meat and bone	Bit of bay leaf	4 tbsp. turnip, cubed
1 lb. browned meat and bone	Sprig of parsley	½ tsp. salt
3 qts. water	4 tbsp. carrot, cubed	2 peppercorns
1 stalk celery	4 tbsp. onion, sliced	Few grs. pepper

Cut the meat into small pieces; have the bones sawed. Let meat and bone soak in the water 1 hr. Simmer in a kettle 4 or 5 hrs. (If only raw meat is used, brown ½ of it in a frying pan with a little fat of the meat.) About 1 hr. before the stock is taken from the fire add the vegetables, which have been browned in suet and seasonings.

NOTES:

Use all the trimmings in making soup stock.

For white stock use veal or chicken.

For brown stock use beef, part of it browned, and the vegetables browned.

Stock without vegetables keeps best in hot weather.

Stock may be clarified by adding the slightly beaten white of egg and shell, stir, then boil 2 min., simmer 20 min.; remove scum and strain thru a cloth placed over a fine strainer.

GENERAL DIRECTIONS FOR STEWING

Stewing is cooking slowly, a long time, in a small quantity of water.

The object is to retain part of the juice and extract enough to give flavor to the gravy.

This is done by cutting the meat into suitable pieces for serving. Divide into 2 portions. Add one portion to cold water and heat slowly to boiling point. Meanwhile sear the other portion by browning in a little fat in a frying pan. Then add it to the water and meat. The whole should then be cooked slowly for three hours, or until the meat is tender.

Beef, Mutton, Lamb or Veal may be used, selecting the tough pieces, such as the neck, shoulder, lower part of round, aitch bone, etc. Pieces of cold cooked meat may be added to the stew.

Meat with some bone and fat makes a richer stew than the one made with lean meat.

The pieces of meat are usually dredged with flour before browned. This gives color to the stew, a richer flavor, and also thickens the gravy.

Onions, carrots, turnips, parsnips and potatoes are the vegetables commonly used in stews. Tomatoes, string beans and green peas are sometimes used. The vegetables should be cut into ½-inch cubes, ¼-inch slices or strips, and added the last hour of cooking. The potatoes, however, should be parboiled 5 minutes, then added to the stew, allowing 20 minutes for cooking. The vegetables may be cooked separately. The usual seasonings are salt and pepper. Sweet herbs, parsley, a bit of bay leaf, one or two cloves, celery salt, or catsup may be added to give variety.

Dumplings are often served with stew. Place them so they will rest on the meat and vegetables and cook ten minutes.

BEEF STEW

2 lbs. beef	1 turnip	4 potatoes
3 tbsp. flour	1 carrot	Salt and pepper
Water	2 onions, sliced	

Prepare according to directions given above.

BEEF A LA MODE

Insert 12 large strips of salt pork fat or piece of suet into a 4-pound piece of round of beef. Season with salt and pepper, dredge with flour. Put a piece of suet in a hot pan, brown the meat on all sides in this. Put in kettle with vegetables and water according to recipe for beef stew, cover closely and cook slowly 4 or 5 hours in oven or on top of range.

POT ROAST

When beef is similarly prepared (without the strips of fat and vegetables) and cooked in a smaller amount of water it is called pot roast.

METHODS OF COOKING MEAT

Broiling is cooking by direct exposure to heat, over hot coals or over a flame (gas flame).

Cooking with little or no fat in a hot frying pan is called **"Pan Broiling."**

The Object is to retain the juices.

The Method is to expose the surfaces of the meat to a hot fire, turning frequently.

By turning frequently, the surfaces are seared and the juices retained.

EXPERIMENTS

Put a piece of meat into a wire broiler, hold over a flame one minute. What happens? The juice comes to the top and when turned the juice drops into the fire.

Put a piece of meat into a wire broiler, hold over a flame and count ten. Turn, count ten, and repeat. Raise broiler, count ten, turn. Repeat. Cut and examine.

The tender cuts of beef, mutton and lamb, and some kinds of **game,** are used for broiling.

Young chicken, small fish, lobsters, and oysters may be broiled.

Pork and veal should not be broiled, as they require long cooking.

Dark meats, as beef, mutton, etc., may be cooked rare.

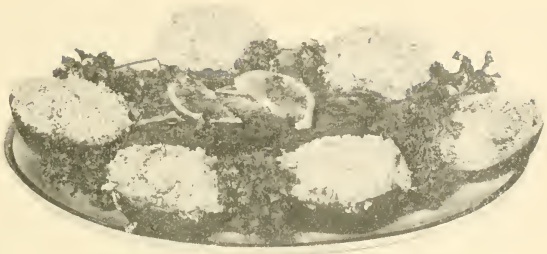
Lamb, chicken, and light meats should be well done.

The best cuts for broiling are steaks from the loin of beef (all between the first rib and rear end of hip bone). Example: Sirloin, porterhouse, from the top of round and rump, and the rib or loin chops of mutton and lamb.

The meat should be cut "across the grain," from ¾ to 1½ in. thick.

The dampers of the stove should be open during broiling, so that the smoke, etc., may be carried to the chimney.

NOTES:



Broiled Steak With Stuffed Tomatoes

TO BROIL STEAK

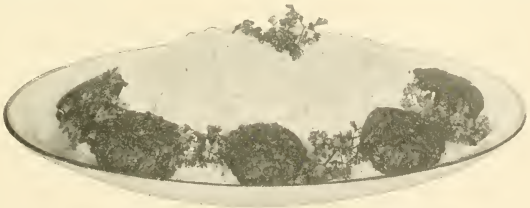
Wipe meat with a damp cloth and trim off superfluous fat. Rub the wire broiler with a little of the fat. Place the meat in broiler and broil over a clear fire, turning every ten seconds for the first minute. After the first minute, turn occasionally until well cooked on both sides.

TIME.—Steak an inch thick requires from five to eight minutes.

Steak may be pan broiled. See 42A.

SERVE WITH MAITRE D'HOTEL BUTTER

Cream 3 tbsp. butter; add 1 tsp. lemon juice gradually, ½ tsp. salt, ⅛ tsp. pepper and ½ tbsp. chopped parsley.



Hamburg Steak With Riced Potatoes

HAMBURG STEAK

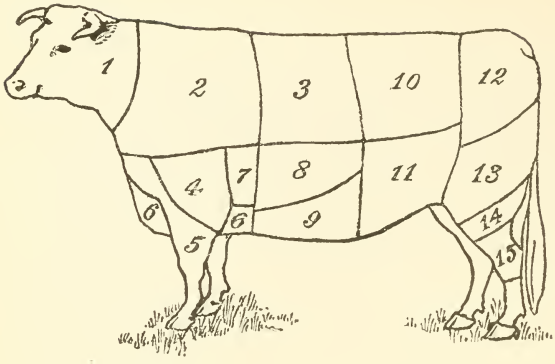
Chop finely 1 lb. lean raw beef; season highly with salt, pepper and a few drops of onion juice. Add ¼ c. milk gradually; knead dough until spongy and shape into cakes. Heat a frying pan, rub with the fat of meat and pan broil the steaks. Turn cakes often during the cooking.

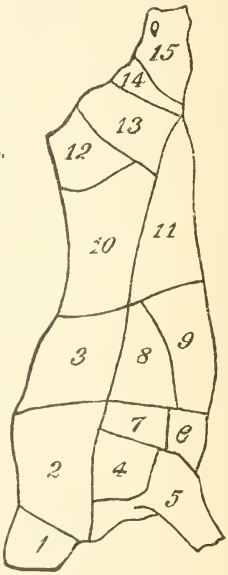
PAN BROILED CHOPS

Heat the frying pan very hot. Trim the chops, remove the fat, and wipe the chops. Put into frying pan. When one side is seared, sear the other, turn often the first minute. Cook from 6 to 8 min. Stand chops in the pan so the edges may be cooked.

TIME TABLE FOR BROILING

Steak 1 inch thick	5 to 8 minutes
Steak 1½ inch thick	7 to 12 minutes
Chickens	20 to 30 minutes
Squabs	10 to 12 minutes





1. Neck
2. Chuck
3. Ribs
4. Shoulder clod
5. Fore shank
6. Brisket
7. Cross ribs
8. Plate
9. Navel
10. Loin
11. Flank
12. Rump
13. Round
14. Second cut round
15. Hind shank

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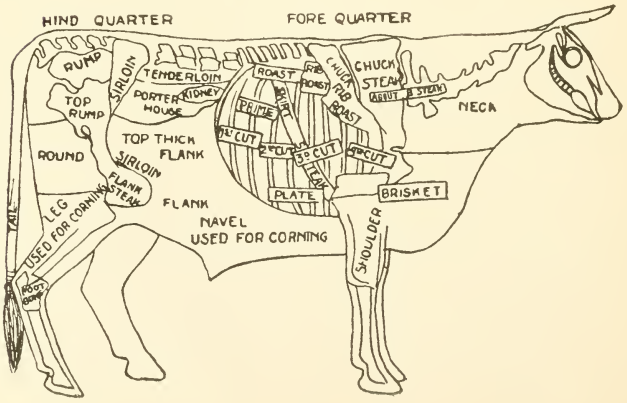


METHODS OF COOKING MEAT

Braising is steaming meat in its own juices in the oven. It is done by the cooking of meat with a small amount of water in the oven in a tightly covered pan or kettle. It is a combination of stewing and baking meat. The meat should be cooked in an oven at a low temperature for a long time. By so doing tough pieces of meat become tender.

ROLLED FLANK OF BEEF OR ROLLED ROUND OF BEEF

Flank steak, or 1 lb. of thinly cut round steak.

2 or 3 small pieces of suet
1 onion
¼ c. carrot, cubed
2 c. stock or water

Wipe the meat, trim the edges, pound on both sides, spread with stuffing, roll and tie. Sprinkle the roll with salt and pepper, dredge with flour and brown on all sides in hot drippings and lay it on the onion and carrot in a pan with the suet on top. Pour the water or stock into the pan. Cover tightly and cook slowly in the oven or on top of the stove.

For round steak, cook slowly, covered, for ½ hr. or more in a moderate oven, then uncover and cook ½ hr.

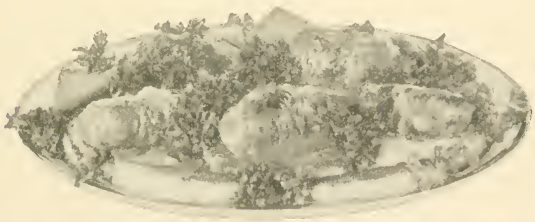
For flank steak, cook slowly, covered, for 3 hrs. or more in a moderate oven, then uncover last ½ hr.

Serve with brown gravy made by thickening the liquid in the pan.

Individual rolls may be made.

STUFFING

2 c. soft bread crumbs
2 tbsp. melted butter
2 tbsp. chopped parsley
½ tsp. onion juice (if liked)
2 tbsp. celery (cut) or ⅛ tsp. celery salt
½ tsp. salt
⅛ tsp. pepper
¼ c. hot water



VEAL BIRDS

Wipe thin slices of veal cut from the leg or shoulder. Pound the meat on both sides, and cut into 3 by 3½-inch pieces. Spread pieces with STUFFING, roll and tie, sprinkle with salt and pepper, dredge with flour. Brown in hot butter. Put in stew pan, cover with a thin white sauce and cook slowly until tender. Serve on small circular or square pieces of toast, cover with the sauce and garnish with parsley. The trimmings may be used for making a white stock, which may be added to the sauce or stuffing.

BEEF

Name of Cut	How to Prepare	No. of Lesson
LOIN—Including all Sirloin Cuts	Roast	44B
	Broil	42B
RUMP	Fairly good for broiling	42B
Back of Loin	Roast	44B
" "	Stew	41B
" "	Pot Roast	41B
ROUND	Braize	43B
"	Beef a la mode	41B
"	Beef juice	41A
"	Beef tea	41A
"	Fairly good for roasting	44B
"	and broiling	42B
PRIME RIBS	Fine for roasting	44B
BLADE	Fairly good for roasting	44B
CHUCK	Braize	43B
"	Pot roast	41B
"	Stew	41B
NECK	Soup	41A
"	Stew	41B
BRISKET	Corn or boil	41B
CROSS RIBS	Pot roast or inferior steak	41B
PLATE	Corn or boil	41B
NAVEL	Corn or boil	41B
FLANK	Stew	41B
"	Roll and braize	43B
SHIN	Soup	41A
Skirt Steak	Stew	41B

NOTES:

PROTEIDS—TISSUE BUILDERS—MEAT

METHODS OF COOKING MEAT

Roast Beef with Carrots in Turnip Cups

ROASTING

Roasting is cooking by exposure to direct action of dry heat on a spit or in an oven.

The object of roasting is to retain the juices and develop a special flavor. The tender cuts of meat should be selected for roasting—the choicest cuts being the sirloin, rump, rib, etc., of beef; the loin, leg and shoulder of lamb, mutton or veal; the chine and rib of pork. Chickens, turkeys, geese, ducks, etc., are used for roasting.

GENERAL DIRECTIONS

Wipe the meat with a damp cloth. Dredge the surface with flour, salt and pepper. Put pieces of fat on the meat and in the pan (melted fat may be used and rubbed over the surface). Place meat on a rack in the pan. Put into a hot oven. The heat of the oven should be intense at first to sear the surface (about 10 min.), and then the heat should be reduced and water added to cover bottom of pan.

The meat should either be covered closely or basted frequently with equal quantities of fat drippings and water. After the last basting, sprinkle with salt and pepper. Place meat on a hot platter and garnish.

GRAVY

Pour fat from pan, allow 2 tbsp. of fat to 3 tbsp. flour for each cupful of gravy. Put fat into the pan, add the flour and stir over a hot fire until well browned; add the boiling water or stock gradually; boil 3 min.; season to taste with salt and pepper and strain.

TIME TABLE FOR ROASTING

Beef, round	per lb. 12 to 15 min.
Beef, ribs (well done)	per lb. 12 to 15 min.
Beef, ribs (rare)	per lb. 8 to 10 min.
Mutton leg (well done)	per lb. 15 min.
Mutton leg (rare)	per lb. 10 min.
Mutton loin (rare)	per lb. 8 min.
Mutton shoulder (stuffed)	per lb. 15 min.
Lamb (well done)	per lb. 20 min.
Veal (well done)	per lb. 25 min.
Pork (well done)	per lb. 30 min.
Chicken	per lb. 15 min.
Goose	per lb. 18 to 20 min.
8 lb. turkey	about 2 hrs.

PROTEIDS—TISSUE BUILDERS

POULTRY

SELECTING POULTRY, select a chicken with firm flesh, yellow skin and legs.

A CHICKEN is known by soft feet, smooth skin and soft cartilage at end of breastbone.

A YOUNG CHICKEN has an abundance of pin feathers. Long hairs denote age.

Choose spring chickens for broiling. A young, plump chicken for roasting. A fowl for stewing.

TO DRESS AND CLEAN POULTRY

Pick out the pin feathers, singe, remove hairs and down by holding over a flame. Cut off the head, using a small-pointed knife. Cut through the skin around the leg, 1½ in. below the leg joint, care being taken not to cut tendons, snap the bone and pull off foot.

Make a cut through the skin below the breast bone just large enough to admit the hand. Keep the fingers close to the breastbone until the heart and liver are reached, loosen on either side down toward the back. Loosen all membrane and remove entrails, gizzard, heart and liver. The lungs and kidneys lie in the hollow near the backbone and between the ribs.

Cut off the neck close to the body, leaving enough skin to fasten under the back. Remove windpipe and the crop. Remove oil bag and wash bird by letting cold water run through it. (Do not soak bird in cold water. Why?) Wipe inside and outside with a damp cloth.

TO CLEAN GIBLETS

Cut the liver from the gall bladder; cut the heart open and remove the clotted blood Cut the outer coat of the gizzard and draw it off, leaving the sac containing the sand, etc. Wash and cook in boiling salted water.

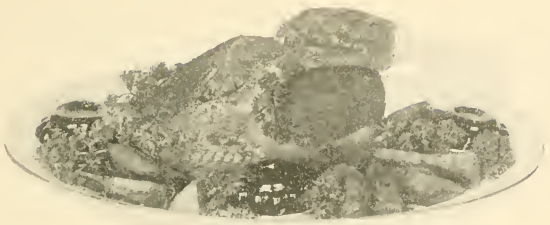
TO STUFF POULTRY

Use enough stuffing to fill the skin, that the bird may look plump when sewed. Where cracker stuffing is used, allowance must be made for the swelling of the crumbs. Sew the skin or use skewers.

TO TRUSS POULTRY

Draw the thighs and wings close to the body and fasten with steel skewers, or tie with a string. Fasten the neck skin under the back.

NOTES:



Roast Chicken With Cranberry Jelly and Glazed Sweet Potatoes

ROAST CHICKEN

DRESS, CLEAN, STUFF AND TRUSS A CHICKEN

Place on its back on a rack in a dripping pan (or on thin slices of salt pork fat or chicken fat in a pan a trifle larger than the chicken). Rub the entire surface with salt and spread legs and breast with 3 tbsp. butter or melted chicken fat and 3 tbsp. of flour. Place in a hot oven and when flour is well browned, reduce the heat and baste every ten minutes if not roasted in a self-basting pan.

For Basting take 4 tbsp. of the fat in the pan and mix with one cup boiling water.

A 4-pound chicken requires about 1½ hrs.

For the stuffing the chicken fat may be melted and used in place of the butter.

STUFFING I

1 c. cracker or bread crumbs
¼ c. melted butter
Sage if liked
¼ tsp. salt
Few grs. pepper
⅓ c. milk scalded
1 tsp. chopped parsley

STUFFING II (CHESTNUT)

2 c. French chestnuts
⅓ c. butter
1 c. cracker crumbs
¾ tsp. salt
Few grs. pepper
¾ c. cream

Shell and blanch chestnuts. Cook in boiling salted water until soft. Drain and mash. Add half the butter, salt, pepper and cream. Melt remaining butter, mix with cracker crumbs, then combine mixtures.

STUFFING III

1½ c. dried bread crumbs
6 tbsp. melted butter
¼ tsp. salt
¾ tsp. cinnamon
1 c. apple sauce (Lesson 47B)

Mix ingredients in order given.

STUFFING IV

½ c. dried bread crumbs
1 c. cracker crumbs
½ c. butter
1 pt. oysters
Salt and pepper

Mix in order given.

STUFFING V

2 c. freshly grated bread crumbs
1 tsp. salt
¼ tsp. pepper
Sage (if liked)
⅓ c. melted butter
1 well beaten egg
⅓ c. scalded milk

Mix in order given.

FRYING

FRYING means cooking in hot fat, deep enough to cover the material to be cooked. The fat used for cooking may be Olive Oil, Lard, Beef Drippings, Cottolene, Cotosuet, Cocoa Butter, Peanut Oil, Crisco, etc.

A combination of two-thirds lard and one-third beef drippings is considered better than lard alone.

TO TRY OUT FAT

Cut the fat into bits, put into a pan in the oven or over a fire with enough cold water to cover, and let simmer slowly for several hours. When the fat is melted and nearly free from water, strain it. On cooling the fat will form a cake on top of any remaining water. Another way is to put the small pieces of fat in the top of a double boiler.

TO CLARIFY FAT

Melt the fat, add raw potatoes cut in ¼-in. slices and allow fat to heat gradually. When fat ceases to bubble and potatoes are well browned, strain (thru muslin or double thickness of cheese cloth placed over a strainer) into a pan or jar.

POINTS ABOUT FRYING

Fat should be hot enough to form a crust on the food cooked in it.

So long as the fat bubbles it is not hot enough.

Anything that cools the fat tends to make the food greasy.

Do not put too much into the fat at the same time, as it lowers the temperature.

Reheat the fat after each frying.

All fried food should be drained on soft paper.

RULES FOR TESTING FAT FOR FRYING

When the fat begins to smoke, drop into it an inch cube piece of bread.

If this browns in forty seconds, the fat is hot enough for cooked mixtures—ex., croquettes, codfish balls, etc.

Use same test for uncooked mixtures, allowing one minute for bread to brown; ex., doughnuts, etc.

NOTE.—Nearly all food not containing eggs is dipped in eggs and crumbs, flour or meal, to protect it from absorbing fat. The heat of the fat hardens the albumen of the egg and forms a coating.

NOTES:

Left-overs of cooked meat, fish, vegetables, or macaroni may be used in croquettes.

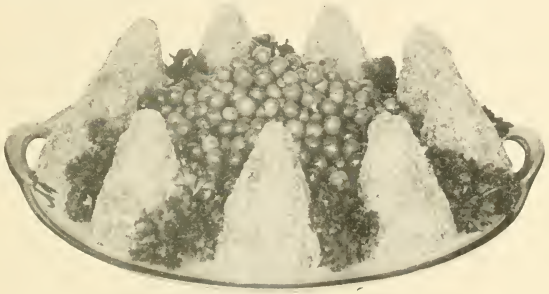
The usual mixture consists of two parts of meat, etc., to one part of well seasoned, thick sauce.

GENERAL DIRECTIONS

Cool the mixture. Use 2 tbsp. of mixture to each croquette. Form into balls, cylinders, or to imitate pears, apples, etc., using cloves for stems and for eyes if shaped into birds.

Put a heap of fine crumbs on a board or large plate. (Use for crumbing dried bread crumbs which have been rolled and sifted, or stale bread crumbs forced through a colander.) Break an egg, add two tbsp. water, beat slightly. Roll the shaped croquette mixture in the crumbs, dip in egg and then in crumbs again. Fry in smoking hot fat until a light brown and drain on soft paper.

Place a napkin on a hot platter and arrange the croquettes on it. Garnish with parsley, etc. A sauce may be served with croquettes.



VEAL CROQUETTES

2 c. chopped veal (cooked) Few grs. cayenne Few drops onion juice
½ tsp. salt. 1 c. thick sauce Yolk 1 egg
⅛ tsp. pepper

Mix ingredients in order given. Cool, shape, dip in crumbs, eggs, and crumbs again. Fry in deep fat. Chicken croquettes may be made in same way, substituting chicken for veal.

THICK SAUCE

2⅓ tbsp. butter ⅓ c. flour 1 c. liquid
½ tsp. salt Few grs. pepper

(In making the thick white sauce use either white stock or milk.) Follow directions given in Lesson 7B.

POTATO CROQUETTES

2 c. riced potatoes 8 drops onion juice ⅛ tsp. pepper ¾ tsp. salt
¼ tsp. celery salt 1 tsp. chopped parsley 2 tbsp. butter 1 egg yolk

Mix ingredients in order given. Shape, dip in crumbs, eggs and crumbs again. Fry in hot fat.

RICE CROQUETTES

2 c. steamed rice (Lesson 21B) ½ tsp. salt Few grains paprika
1 well beaten egg or 2 yolks ⅛ tsp. pepper 2 tbsp. chopped parsley
1½ tbsp. butter

Mix ingredients, follow directions. Sweet rice croquettes may be made by omitting the pepper, paprika and parsley, and adding 2 tbsp. sugar and the grated rind of ½ lemon.

BREADED VEAL CUTLETS

Use ½ inch thick slices of veal cut from the leg. Wipe meat. Cook in boiling salted water until tender. Remove bone and skin and cut into pieces for serving. Drain, sprinkle with salt and pepper, dip in crumbs, eggs, and crumbs again and fry in hot deep fat. The stock may be used for sauce or soup.

FRENCH FRIED POTATOES

Wash and pare small potatoes; cut in eighths lengthwise, and soak 1 hour in cold water.
Take from water, dry between towels, and fry in deep fat.
Drain on paper and sprinkle with salt.
Do not have the fat too hot, as the potatoes must be cooked.

TABLE SHOWING COMPOSITION OF MEAT

Article, Beef	Refuse	Proteid	Fat	Mineral Matter	Water
Fore quarter	19.8	14.1	16.1	.7	49.3
Hind quarter	16.3	15.3	15.6	.8	52.
Round	8.5	18.7	8.8	1.	63.
Rump	18.5	14.4	19.	.8	47.
Loin	12.6	15.9	17.3	.9	53.3
Ribs	20.2	13.6	20.6	.7	44.9
Chuck ribs	13.3	15.	20.8	.8	50.1
Tongue	15.1	14.8	15.3	.0	53.8
Heart	....	16.	20.4	1.	62.6

PROF. W. O. ATWATER, Ph.D.

TIME TABLE FOR BOILING MEAT AND FISH

Fresh beef ..... 4 to 6 hrs.
Corned beef, rib or flank, per lb., 25 min ..... 4 to 7 hrs.
Corned beef, fancy brisket, per lb., 30 min ..... 5 to 8 hrs.
Corned tongue ..... 3 to 4 hrs.
Ham, 12 to 14 lbs ..... 4 to 5 hrs.
Leg or shoulder of lamb ..... 2 to 3 hrs.
Leg or shoulder of mutton, per lb., 12 to 20 min ..... 3½ to 5 hrs.
Turkey, per lb ..... 15 to 18 min.
Fowl, per 4 lbs ..... 2 to 4 hrs.
Lobster ..... 25 to 30 min.
Codfish, per lb ..... 6 min.
Haddock, per lb ..... 3 min.
Salmon, whole or thick piece, per lb ..... 10 to 15 min.
Halibut, whole or thick piece, per lb ..... 15 min.
Clams ..... 3 to 5 min.
Oysters ..... 3 to 5 min.
Fish, per lb ..... 10 to 12 min.

Review lessons up to date.

NOTES:

GENERAL DIRECTIONS FOR MAKING SAUCES

RULE I

Mix an equal amount of flour and water until smooth, then add more cold water until thin enough to pour. Add the flour mixture gradually to the hot liquid, stirring all the time until thickened, add the butter and seasonings for making sauces just before taking from the fire. If cooked in a double boiler, allow 20 min. for cooking. If boiled, cook 5 min. This method does not cook the butter. Cooking butter renders it less digestible.

For a thin sauce, allow 1½ tbsp. flour to 1 c. liquid.

For a medium sauce, allow 2 tbsp. flour to 1 c. liquid.

RULE II

Melt the butter, add flour mixed with seasonings and stir until thoroly mixed. Pour on gradually the hot liquid, adding one-third at a time, stirring while cooking until perfectly smooth before adding more liquid.

RULE III

Cream the butter, flour and seasonings; add to hot liquid; cook, stirring all the time until perfectly smooth.

WHITE SAUCE

1 c. scalded milk
2 tbsp. flour
2 tbsp. water
¼ tsp. salt
Few grs. pepper
2 tbsp. butter

Follow directions as given above in Rule I.

THICK WHITE SAUCE

Allow ⅓ c. flour to 1 c. milk.

BECHAMEL SAUCE

¾ c. highly seasoned white stock
½ c. scalded milk
¼ tsp. salt
2 tbsp. flour
1-16 tsp. pepper
2 tbsp. butter

Follow directions.

TOMATO SAUCE

Lesson 40B

TOMATO CREAM SAUCE

Add ⅛ tsp. soda to Tomato Sauce. Heat, add gradually ½ c. scalded milk.

BROWN SAUCE

2 c. brown stock
1 tsp. Worcestershire sauce
1 tbsp. butter
2 tbsp. flour
Salt and pepper to taste.

Brown the butter, add the flour. Brown the two, stirring until smooth; add the stock gradually; cook and stir until sauce is smooth.

MINT SAUCE

1 c. finely chopped mint leaves
½ c. vinegar
2 tbsp. sugar

Use only the leaves and tender tips of the mint. Add the sugar to the vinegar. When dissolved, pour over the mint and let stand on the back of the range for thirty minutes. If the vinegar is very strong, add a little water.

PROTEIDS—TISSUE BUILDERS

FISH

FISH is the animal food next in importance to that of meat. The fish flesh is less stimulating and nourishing than meat, but is considered to be more easily digested.

Fish is classified into the **white-fleshed** and **red-fleshed.**

In the white-fleshed fish, most of the oil is secreted in the liver, while in the red-fleshed the oil is distributed throughout the flesh.

White-Fleshed Fish.—Examples: White Fish, Haddock, Cod, Flounder, Smelt, Perch, Pickerel, Sun Fish, Croppies, etc.

Red-Fleshed Fish.—Examples: Salmon, Shad, Lake Trout, Butter Fish, Herring, etc.

The white-fleshed fish is more easily digested than the red-fleshed and should therefore be selected for invalids, convalescents or those suffering from weak digestion.

Fish should be eaten while fresh and in season. Stale fish is poisonous.

HOW TO SELECT FRESH FISH

Select a fish that has bright eyes and gills, shiny scales, firm flesh, and is free from a disagreeable odor.

HOW TO CLEAN FISH

Remove the scales by drawing a knife over the fish, beginning at the tail and working toward the head.

Wipe the fish inside and outside with a cloth wet in cold salted water, then wipe with a clean dry cloth, kept for the purpose. Head and tail may or may not be taken off, according to the manner of cooking.

HOW TO SKIN A FISH

Rub fingers with salt, so that the fish may be held without slipping.

Remove the fins along the back with a sharp knife. Cut off a narrow strip of skin the entire length of the back. Loosen the skin from the bony part of gills and draw it off very carefully, one side at a time.

HOW TO BONE A FISH

Clean and skin; begin at the tail and run a sharp knife under the flesh close to the back, working toward the head. Turn and repeat on the other side. Pick out any small bones that may remain.

METHODS OF COOKING FISH

Broiling, baking and steaming are the best methods for cooking fish.

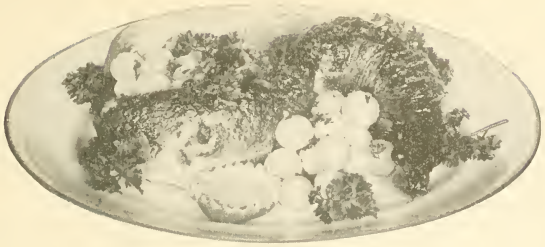
Fish suitable for broiling are: Split mackerel, white fish, cod, shad, trout, etc., sliced halibut and salmon, white smelts and small fish.

Fish suitable for baking whole are: White fish, cod, haddock, small salmon, shad, etc.

Fish suitable for boiling are: Salmon, halibut, cod, haddock, trout, etc.

Fish suitable for frying are the white-fleshed.

Boiled Fish with Potato Balls



BAKED FISH

Select a fish weighing from 2½ to 4 lbs. Bake with or without filling.

Clean and wipe the fish. Rub the inside with salt. Fill with stuffing (Lesson 49B.) and sew together. Cut diagonal gashes 1½ inches apart on both sides of the fish, and place a strip of bacon or salt pork fat in each gash.

Brush with melted butter, sprinkle with salt and pepper, dredge with flour, tie in the shape of a letter S and bake on a baking sheet or strips of cotton cloth (so that it may be easily removed from pan) in a dripping pan. When the flour is browned baste the fish once in ten minutes. Cook until the flesh is firm and separates easily from the bone. When cooked, slip onto a hot platter, garnish with fried gelatine or parsley and lemon cut into fancy shapes. Serve with tomato sauce (Lesson 40B).

FRIED FISH

Clean and wipe the fish. Season with salt and pepper, roll in corn meal, flour or crumbs, dip in eggs and crumbs again (Lesson 46A). Cook in deep hot fat; drain on soft paper. Serve on a hot dish.

SAUTED FISH

Prepare fish as for frying and cook in a small amount of fat in a frying pan.

BOILED FISH

Clean and wipe the fish; tie in a cheese cloth to hold the fish together and to prevent the scum from adhering to the fish. Place the fish on a rack or frying basket to keep the shape and to make it easier to remove from the water. Cook gently in enough boiling salted acidulated water to cover the fish, using 2 tsp. salt and 2 tbsp. vinegar to each quart of water. The salt gives flavor and the vinegar or lemon juice keeps the flesh white. Allow about 15 minutes to the pound. The fish is cooked when the flesh is firm and separates easily from the bone.

Remove from water, take off the cheese cloth, put on a hot platter, and serve with Hollandaise Sauce (Lesson 49B).

BROILED FISH

Clean and wipe the fish; remove head and tail and split down the back. If a thick fish is used, cut into slices.

Grease a wire broiler, lay in the fish and cook over a clear fire, cooking the flesh side first. Turn it and cook the skin until crisp. Sliced fish should be turned often while broiling. Fish is cooked when flesh is firm. Slip onto a hot platter, season with salt, pepper and butter and lemon juice, if liked.

NOTES:

From the U. S. Department of Agriculture.
Farmers' Bulletin No. 85. By C. F. Langworthy, Ph. D.

TABLE I.—Composition of fish, mollusks, crustaceans, etc.

KIND OF FOOD MATERIAL	Refuse (bone, skin, etc.)	Salt.	Water	Protein by Factor N x 6.25)	Fat	Carbohydrates	Ash or Mineral Matter	Total Nutrients	Fuel Value per lb.
Fresh Fish	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Calories
Alewife, whole	49.5	.....	37.6	9.8	2.4	.....	0.8	13.0	277
Bass, large - mouthed black, dressed	46.7	.....	41.9	10.3	.5	.....	.6	11.4	209
Bass, large - mouthed black, whole	56.0	.....	34.6	8.5	.4	.....	.5	9.4	172
Bass, small - mouthed black, dressed	46.4	.....	40.1	11.7	1.3	.....	.7	13.7	263
Bass, small - mouthed black, whole	53.6	.....	34.7	10.1	1.1	.....	.6	11.8	227
Bass, sea, dressed	46.8	.....	42.2	10.5	.2	.....	.7	11.4	200
Bass, sea, whole	56.1	.....	34.8	8.7	.2	.....	.6	9.5	168
Bass, striped, dressed	51.2	.....	37.4	8.8	2.2	.....	.5	11.5	249
Blackfish, dressed	55.7	.....	35.0	8.4	.5	.....	.5	9.4	172
Bluefish, dressed	48.6	.....	40.3	10.0	.6	.....	.7	11.3	204
Butterfish, dressed	34.6	.....	45.8	11.8	7.2	.....	.7	19.7	503
Butterfish, whole	42.8	.....	40.1	10.3	6.3	.....	.6	17.2	440
Carp (European analysis)	37.1	.....	48.4	.....	.7	.....	.9	14.5	263
Cod, dressed	29.9	.....	58.5	11.1	0.2	.....	0.8	12.1	209
Cod, steaks	9.2	.....	72.4	17.0	.5	.....	1.0	18.5	327
Cusk, dressed	40.3	.....	49.0	10.1	.1	.....	.5	10.7	186
Eel, salt-water, dressed	20.2	.....	57.2	14.8	7.2	.....	.8	22.8	558
Flounder, common dressed	57.0	.....	35.8	6.4	.3	.....	.6	7.3	127
Flounder, winter, dressed	56.2	.....	37.0	6.3	.2	.....	.5	7.0	122
Hake, dressed	52.2	.....	39.5	7.3	.3	.....	.5	8.1	145
Haddock, dressed	51.0	.....	40.0	8.4	.2	.....	.6	9.2	159
Halibut, dressed	17.7	.....	61.9	15.3	4.4	.....	.9	20.6	454
Herring, whole	42.6	.....	41.7	11.2	3.9	.....	.9	16.0	363
Mackerel, dressed	40.7	.....	43.7	11.6	3.5	.....	.7	15.8	354
Mackerel, Spanish, dressed	24.4	.....	51.4	16.3	7.2	.....	1.2	24.7	585
Mackerel, Spanish, whole	34.6	.....	44.5	14.1	6.2	.....	1.0	21.3	508
Mullet, dressed	49.0	.....	38.2	9.9	2.4	.....	.6	12.9	277
Mullet, whole	57.9	.....	31.5	8.2	2.0	.....	.5	8.9	231
Perch, white, dressed	54.6	.....	34.4	8.8	1.8	.....	.5	11.1	231
Perch, white, whole	62.5	.....	28.4	7.3	1.5	.....	.4	9.2	195
Perch, yellow, dressed	35.1	.....	50.7	12.8	.7	.....	.9	14.4	259
Pickerel, dressed	35.9	.....	51.2	12.0	.2	.....	.7	12.9	227
Pickerel, whole	47.1	.....	42.2	9.9	.2	.....	.6	10.7	186
Pollock, dressed	28.5	.....	54.3	15.4	.6	.....	1.1	17.1	304
Pompano, whole	45.5	.....	39.5	10.3	4.3	.....	.5	15.1	358
Porgy, dressed	53.7	.....	34.6	8.6	2.4	.....	.7	11.7	254
Porgy, whole	60.0	.....	29.9	7.4	2.1	.....	.6	10.1	218
Red grouper, dressed	55.9	.....	35.0	8.5	.2	.....	.5	9.2	163
Red snapper, dressed	45.3	.....	43.7	10.6	.3	.....	.7	11.6	204
Salmon, California (sections)	10.3	.....	57.9	16.7	14.8	.....	.9	32.4	903
Salmon, Maine, dressed	23.8	.....	51.2	15.0	9.5	.....	.9	25.4	658
Shad, dressed	43.9	.....	39.6	10.6	5.4	.....	.8	16.8	408
Shad, whole	50.1	.....	35.2	9.4	4.8	.....	.7	14.9	363
Shad, roe	.....	.....	71.2	23.5	3.8	.....	1.5	28.8	581
Smelt, whole	41.9	.....	46.1	10.1	1.0	.....	1.0	12.1	222
Sturgeon, dressed	14.4	.....	67.4	15.1	1.6	.....	1.2	17.9	340
Tomcod, dressed	51.4	.....	39.6	8.4	.3	.....	.5	9.2	163
Tomcod, whole	59.9	.....	32.7	6.9	.2	.....	.4	7.5	132
Trout, brook, dressed	37.9	.....	48.4	11.9	1.3	.....	.7	13.9	268
Trout, brook, whole	48.1	.....	40.4	9.9	1.1	.....	.6	11.6	222
Trout, lake, dressed	37.5	.....	44.4	11.0	6.2	.....	.7	17.9	449
Turbot, dressed	39.5	.....	43.1	8.9	8.7	.....	.8	18.4	513
Turbot, whole	47.7	.....	37.3	7.7	7.5	.....	.7	15.9	445
Weakfish, dressed	41.7	.....	46.1	10.4	1.3	.....	.7	12.4	240
Weakfish, whole	51.9	.....	38.0	8.6	1.1	.....	.6	10.3	200
Whitefish, dressed	43.6	.....	39.4	12.8	3.6	.....	.9	17.3	376
Whitefish, whole	53.5	.....	32.5	10.6	3.0	.....	.7	14.3	313
General average of fresh fish as sold	41.6	.....	44.6	10.9	2.4	.....	.7	14.0	295

NOTES:

DRAWN BUTTER SAUCE

2 c. boiling water
½ c. butter
4 tbsp. flour
⅛ tsp. pepper
½ tsp. salt

Melt half the butter, add the flour. Stir while adding the boiling water gradually. Boil 5 minutes. Add the seasonings and remaining butter.

CAPER SAUCE

Add ½ c. capers, drained, to drawn butter sauce.

EGG SAUCE

Add two "hard cooked" eggs, finely chopped, to drawn butter sauce.

HORSERADISH SAUCE

To serve with salmon:

6 tbsp. grated horseradish
2 tbsp. vinegar
¼ tsp. salt
½ tsp. sugar
Few grs. cayenne
½ c. thick slightly sour cream

Mix ingredients except cream. Beat cream until stiff. Combine, beat until thoroly mixed and serve.

HOLLANDAISE SAUCE I

2 tbsp. butter
2 tbsp. flour
Salt and pepper
1 c. fish stock
2 yolks
2 tbsp. lemon juice

Melt the butter, add the flour. Stir while gradually adding the fish stock (water in which the fish has been cooked). Boil 6 minutes. Remove from fire, pour some of the mixture over the slightly beaten yolks; pour this back into the sauce. Beat and add the lemon juice and seasonings. Do not reheat.

HOLLANDAISE SAUCE II

½ c. butter
Yolks 2 eggs
½ tbsp. vinegar or
1 tbsp. lemon juice
⅛ tsp. paprika
¼ tsp. salt
½ c. hot water

Cream the butter, add the yolks and beat thoroly. Then add the lemon juice, salt, paprika and hot water. Cook in a double boiler, stirring constantly until like thick cream. Remove from fire and beat with a Dover egg beater about 5 minutes.

FISH STUFFING

1 c. crumbs (bread or crackers or half and half)
¼ c. melted butter
¼ tsp. salt
⅛ tsp. celery salt
⅛ tsp. pepper
(Few drops onion juice, if liked)
¼ c. water

Mix ingredients in order given. If a dry filling is desired, the water may be omitted.

Three tbsp. catsup, chopped parsley, capers, pickles, or oysters may be added.

TABLE I.—Composition of fish, mollusks, etc.—Cont.

KIND OF FOOD MATERIAL	Refuse (bone, skin, etc.)	Salt	Water	Protein by Factor (N x 6.25)	Fat	Carbohydrates	Ash or Mineral Matter	Total Nutrients	Fuel Value per lb.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Calories
Preserved Fish									
Mackerel, No. 1, salted	19.7	8.3	34.8	13.9	21.2	.....	2.1	37.2	1,107
Cod, salted and dried	24.9	17.3	40.2	19.0	.4	.....	1.2	20.6	363
Cod, boneless codfish, salted and dried	.....	21.5	54.4	26.3	.3	.....	1.7	28.3	490
Caviar	.....	.....	38.1	30.0	19.7	7.6	a4.6	61.9	1,479
Herring, salted, smoked and dried	44.4	6.5	19.2	20.5	8.8	.....	.9	30.2	726
Haddock, salted, smoked and dried	32.2	1.4	49.2	15.8	.1	.....	1.0	16.9	290
Halibut, salted, smoked and dried	7.0	12.0	46.0	19.3	14.0	.....	1.9	35.2	916
Sardines, canned	5.0	.....	53.6	23.7	12.1	.....	5.3	41.1	916
Salmon, canned	14.2	.....	56.8	19.5	7.5	.....	a2.0	29.0	658
Mackerel, canned	.....	1.9	68.2	19.6	8.7	.....	1.3	29.6	708
Mackerel, salt, canned	19.7	8.3	34.8	13.9	21.2	.....	2.1	37.2	1,107
Tunny, canned	.....	.....	72.7	21.7	4.1	.....	1.7	27.5	558
Haddock, smoked, cooked and canned	.....	5.6	68.7	22.3	2.3	.....	1.6	26.2	499
Mollusks									
Oysters, solids	.....	.....	88.3	6.0	1.3	3.3	1.1	11.7	222
Oysters, in shell	81.4	.....	16.1	1.2	.2	.7	.4	2.5	41
Oysters, canned	.....	.....	83.4	8.8	2.4	3.9	1.5	16.6	327
Scallops	.....	.....	80.3	14.8	.1	3.4	1.4	19.7	336
Long clams, in shell	41.9	.....	49.9	5.0	.6	1.1	1.5	8.2	136
Long clams, canned	.....	.....	84.5	9.0	1.3	2.9	2.3	15.5	268
Round clams, removed from shell	.....	.....	80.8	10.6	1.1	5.2	2.3	19.2	331
Round clams, in shell	67.5	.....	28.0	2.1	.1	1.4	.9	4.5	68
Round clams, canned	.....	.....	82.9	10.5	.8	3.0	2.8	17.1	277
Mussels	46.7	.....	44.9	4.6	.6	2.2	1.0	8.4	150
General average of mollusks (exclusive of canned) a Including salt.	59.4	.....	34.7	3.2	.4	1.4	.9	5.9	99
Crustaceans									
Lobster, in shell	61.7	.....	30.7	5.9	.7	.2	.8	7.6	141
Lobster, canned	.....	.....	77.8	18.1	1.1	.5	2.5	22.2	381
Crawfish, in shell	86.6	.....	10.9	2.1	.1	.1	.2	2.5	45
Crabs, in shell	52.4	.....	36.7	7.9	.9	.6	1.5	10.9	191
Crabs, canned	.....	.....	80.0	15.8	1.5	.7	2.0	20.0	358
Shrimp, canned	.....	.....	70.8	25.4	1.0	.2	2.6	29.2	503
Fresh abalone	.....	.....	72.8	22.2	.3	3.3	1.4	27.2	501
Canned abalone, flesh	.....	.....	73.2	21.7	.1	3.7	1.3	26.8	489
Canned abalone, liquid in can	.....	.....	93.8	4.4	.1	.2	1.5	6.2	93
Dried abalone	.....	.....	39.7	36.0	.5	20.9	2.9	60.3	1,079
General average of crustaceans (exclusive of canned and dried)	50.2	.....	37.8	9.5	.5	1.0	1.0	12.0	220
Terrapin, Turtle, etc.									
Terrapin, in shell	75.4	.....	18.3	5.2	.9	.....	.2	6.3	132
Green turtle, in shell	76.0	.....	19.2	4.7	.1	.....	.3	5.1	91
Average of turtle and terrapin	75.6	.....	18.8	4.9	.5	.....	.3	5.7	111
Frogs' legs	32.0	.....	56.9	10.5	.1	.....	.7	11.3	195
General average of fish, mollusks, crustaceans, etc.	45.0	.....	42.3	9.7	2.1	.2	.7	12.7	264

Farmers' Bulletin No. 85. By C. F. Langworthy, Ph. D.
From the U. S. Department of Agriculture.

NOTES.

FISH BALLS

1 c. salt codfish	½ tbsp. butter	⅛ tsp. pepper
4 medium sized potatoes	1 egg	

Wash fish in cold water, and pick into small pieces. Wash, pare and cut potatoes in ¼-inch slices. Cook potatoes and codfish in boiling water to cover, until potatoes are soft. Drain off every drop of water, return to kettle, mash; add butter, egg well beaten, and pepper. Beat with a fork two minutes. Drop by spoonfuls into smoking hot fat. Fat should be very hot. Serve with White Sauce (see Lesson 47B).

FISH CROQUETTES

To 1 c. cold flaked fish, add ½ c. or more of thick white sauce (see Lesson 47B). Season with salt and pepper (lemon juice and onion juice if liked). Cool, shape into cutlets, etc., roll in crumbs, egg and crumbs again and fry in deep fat. (Lesson 46A.)

TURBAN OF FISH

2 c. cold flaked fish	⅓ tsp. salt	Lemon juice
1 c. white sauce	Few grs. of pepper	½ c. buttered crumbs

Put a layer of fish on a buttered dish, season with salt and pepper and lemon juice. Cover with sauce, continuing with layers of fish and sauce until all are used, shaping in pyramid form. Cover with buttered crumbs and bake in a hot oven until crumbs are brown. Arrange a potato border around the mound of fish. Brush with beaten egg (diluted). Bake in oven until a golden brown.

SALMON LOAF

½ lb. canned salmon or 1 lb. fresh salmon	½ c. scalded milk
2 tbsp. melted butter	1 tbsp. lemon juice (if liked)
2 yolks eggs	1 tsp. chopped parsley
½ tsp. salt	½ c. soft crumbs
⅛ tsp. pepper	2 stiffly beaten whites of eggs

Remove the bones from the salmon. Add melted butter, beaten yolks, salt, pepper, milk, lemon juice and parsley to the crumbs. Add mixture to the salmon. Fold in the stiffly beaten whites and steam in a well buttered and crumbed and closely covered mold one hour.

SHELL FISH

The shell fish commonly used are oysters, clams and scallops. Lobster, shrimps, and crabs altho crustaceans, are usually called shell fish.

AN OYSTER has two shells. The one on which the oyster lies is deeper and rounder than the one that covers it. The oyster has two strong muscles, one to open the shell to take in food and water, and the other to close it.

The body is composed of the liver (containing glycogen, animal starch) surrounded by fluted layers, called gills.

Oysters are five years old before suitable for eating. They are in season from September to May. They have about the same composition as milk. They are nutritious and of easy digestibility.

According to Stutzer, 14 oysters contain the same amount of nourishment as one egg—223 as one pound of beef. One qt. of oysters is equal to 1 qt. of milk in the amount of nourishment contained. Raw oysters are more easily digested than cooked, but cooking destroys dangerous germs that may be present.

The proteid in oysters is very delicate so that they should not be cooked too long nor at too high a temperature.

HOW TO OPEN OYSTERS

Force a thin, sharp knife under the back of the shell that covers the oyster (the flatter of the two) and push forward until it cuts the muscle. Remove the top shell and separate the oyster from the under shell.

HOW TO CLEAN OYSTERS

Drain off the liquid of the oyster thru a wire strainer placed over a bowl. Pour over oysters cold water, using ½ c. to 1 qt. of oysters. Keep the liquor in the bowl. With the fingers examine each oyster separately to see that no bits of shell are left clinging to them.

CLAMS rank next to oysters in food value. Little neck clams are served at dinner when Blue Points are not in season. At the beach, clams are sometimes cooked with seaweed over the fire. This is called a clam bake. Clam chowder, which is a stew, is a typical New England dish.

Scallops. The central muscle forms the edible part. They are in season from October to April.

LOBSTERS, CRABS, SHRIMPS

Their flesh is similar in composition to that of other fish, but is tough and difficult to digest.

Lobster.—The portions of lobster not edible are the lungs, stomach and intestinal vein.

Crabs are in season during the spring and summer.

Shrimps are in season from May to October. Always remove the intestinal vein from the shrimp. It looks like a black thread along the entire length.

OYSTERS ON THE HALF SHELL

Serve the oysters on the deep halves of the shells, allowing six to each person. Arrange shells on crushed ice on plates, small ends toward the center. Place a quarter of a lemon in the middle of each plate.

OYSTER STEW

1 pt. oysters	3 tbsp. butter	⅛ tsp. pepper (celery salt
1 qt. scalded milk	½ tbsp. salt	if liked)

Clean the oysters (Lesson 51A), heat the liquor to boiling point, strain through double thicknesses of cheese cloth. Add salt, pepper and oyster liquor to the scalded milk. Heat to boiling point, reduce heat slightly, add the oysters and cook until the edges begin to curl. Add the butter and serve.

CREAMED OYSTERS

1 c. oysters
1 c. white sauce (Lesson 47B)
½ tsp. celery salt

Clean the oysters, add the oysters to the hot white sauce and cook until the edges begin to curl. Serve on toast, in timbale cases, patty shells, etc.

SCALLOPED OYSTERS (See Lesson 12B)

FRIED OYSTERS

Clean the oysters, lay them on a clean cloth and pat them gently to dry them. Season with salt and pepper. Dip the oysters in cracker or bread crumbs, egg and crumbs again (see Lesson 46A). Fry in deep, hot fat, using 90 seconds test, drain the same on soft paper. Serve on a folded napkin and garnish with parsley.

VEGETABLE OYSTER STEW (See Lesson 11)

Scrape salsify roots—keep under water. Cut into thin slices. Cook until soft in 1 qt. water to which has been added 1 tbsp. of vinegar and 1 tsp. salt. Rub thru a sieve, add to 1 qt. thickened milk. Season with salt and pepper. Serve.

NOTES:

PROTEID SPARERS—GELATINE

A PROTEID SPARER

GELATINE is obtained from cleaned bones, skin and connective tissues of animals.

These are cooked in boiling water for a long time, thereby extracting the gelatinous substances.

COMMERCIAL GELATINE is prepared by treating the connective tissues, etc., with a weak solution of caustic lye kept at a moderate temperature ten days, then raised to a higher temperature, the lye drained off, the tissues, etc., rinsed in clear water, purified with sulphur and again thoroly washed. The tissues are drained thoroly, melted over steam and the liquid gelatine strained off and poured into thin layers to cool. Gelatine is also made from fish bones. The purest form of gelatine called ISINGLASS, is made from the air-bladder of the sturgeon.

Gelatine is highly nutritious. It is composed of carbon, hydrogen, oxygen, and nitrogen, and so has the composition of a proteid food but is not a tissue builder. It is called a PROTEID-SPARER. Its power as a proteid-sparer is about twice that of a carbohydrate.

Gelatine is very easily digested. It is digested by the pepsin of the gastric juices in the stomach, and by the trypsin of the pancreatic juices in the smaller intestines.

Gelatine is not soluble in cold water.

Gelatine is soluble in HOT water.

Gelatine should not be cooked in boiling liquid, as it will not solidify on cooling.

GENERAL RULES

Use two tbsp. granulated gelatine to 3½ cups liquid.

Soak gelatine in cold water 20 minutes. Dissolve gelatine in boiling water, by pouring the boiling water onto the soaked (hydrated) gelatine; or gelatine may be dissolved by placing the soaked gelatine over boiling water. Do not stir much while it is dissolving.

Be sure that all the gelatine is dissolved before adding fruit juices, then add fruit juices, sugar, and a few grains of salt, strain thru a fine cloth, put in a cool place or on ice to harden. Takes 4 or 5 hours to harden in a refrigerator, 2 hours on ice. More gelatine may be used, and then it takes less time for it to harden.

Remove gelatine from mold by putting mold into a pan of warm water, until the jelly loosens. Place inverted on serving dish.

MEAT JELLIES

Gelatine may be combined with cooked, sliced or ground, seasoned meat.

Example: Jellied veal or chicken. If a knuckle of veal or fowl is cooked long enough and the stock reduced to about ¾ cup from 4 lb. of meat and bone, there is enough gelatine extracted to mold the loaf without adding extra gelatine.

NOTES:

LEMON JELLY

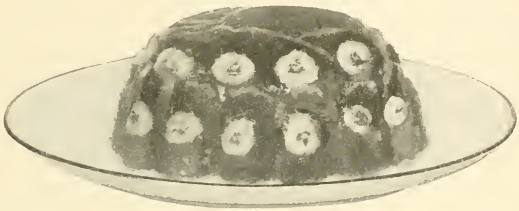
2 tbsp. granulated gelatine	2 to 2½ c. boiling water	½ c. lemon juice
½ c. COLD water	1 c. sugar	Rind 1 lemon

Soak gelatine 20 minutes in cold water, then dissolve in boiling water.

Add sugar, the lemon juice and rind, strain into a mold and chill.

Beating the lemon jelly while it is jelly-like with a Dover egg-beater will make it white and fluffy.

Orange, Raspberry, or other fruit jelly may be made in the same way using ½ c. of the fruit juice with lemon juice to taste.



SNOW PUDDING

May be made by preparing one-half the recipe of LEMON JELLY. When mixtude begins to jelly, beat with a Dover egg-beater until frothy, add the stiffly beaten whites of three eggs and continue beating until stiff enough to hold its shape. Serve this with custard sauce (Lesson 14B). The whites may be omitted.

PUDDING A LA MACEDOINE

Prepare lemon jelly mixture. Place a mold in pan of ice water, pour in mixture ½ inch deep. When firm, decorate with fruit. Cover fruit with some of the lemon jelly mixture. When firm, add more fruit and mixture. Repeat until all is used, each time allowing mixture to stiffen before fruit is added. Oranges, bananas, dates, figs, etc., may be used.

NOTE.—The coloring tablet found in the gelatine packages may be used to color the jelly mixtures, altho fruit juices may be used to give the desired color.

NOTES:

TEN CENTS WILL PURCHASE:

From Farmer's Bulletin No. 142.
U. S. Department of Agriculture.

KIND OF FOOD MATERIAL	Price per Pound	Total Weight of Food Material	Protein	Fat	Carbohydrates	Energy
	Cents	Pounds	Pounds	Pounds	Pounds	Calories
Beef, sirloin	25	0.40	0.06	0.06	.....	410
Beef, round	16	0.63	0.11	0.08	.....	560
Beef, shoulder clod	12	0.83	0.13	0.08	.....	595
Beef, stew meat	5	2.00	0.29	0.23	.....	1530
Beef, dried, chipped	25	0.40	0.10	0.03	.....	315
Mutton chops, loin	16	0.63	0.08	0.17	.....	890
Mutton, leg	20	0.50	0.07	0.07	.....	445
Roast pork, loin	12	0.83	0.11	0.19	.....	1035
Pork, smoked ham	22	0.45	0.06	0.14	.....	735
Pork, fat salt	12	0.83	0.02	0.68	.....	2950
Codfish, dressed, fresh	10	1.00	0.11	.....	.....	220
Halibut, fresh	18	0.56	0.08	0.02	.....	265
Cod, salt	7	1.43	0.22	0.01	.....	465
Salmon, canned	12	0.83	0.18	0.10	.....	760
Oysters, solids, 50c per qt	25	0.40	0.02	.....	0.01	90
Lobster, canned	18	0.56	0.10	0.01	.....	225
Butter	20	0.50	0.01	0.40	.....	1705
Do	25	0.40	.....	0.32	.....	1365
Do	30	0.33	.....	0.27	.....	1125
Eggs, 36c per dozen	24	0.42	0.05	0.04	.....	260
Eggs, 24c per dozen	16	0.63	0.07	0.06	.....	385
Cheese	16	0.63	0.16	0.20	0.02	1185
Milk, 7c per quart	3½	2.85	0.09	0.11	0.14	885
Milk, 6c per quart	3	3.33	0.11	0.13	0.17	1030
Wheat flour	3	3.33	0.32	0.03	2.45	5440
Do	2½	4.00	0.39	0.04	2.94	6540
Corn meal, granular	2½	4.00	0.31	0.07	2.96	6540
Wheat breakfast food	7½	1.33	0.13	0.02	0.98	2235
Oat breakfast food	7½	1.33	0.19	0.09	0.86	2395
Oatmeal	4	2.50	0.34	0.16	1.66	4500
Rice	8	1.25	0.08	.....	0.97	2025
Do	5	2.00	0.16	0.02	1.04	2400
Do	4	2.50	0.20	0.03	1.30	3000
Rye bread	5	2.00	0.15	0.01	1.04	2340
Beans, white, dried	5	2.00	0.35	0.03	1.16	3040
Cabbage	2½	4.00	0.05	0.01	0.18	460
Celery	5	2.00	0.02	.....	0.05	130
Corn, canned	10	1.00	0.02	0.01	0.18	430
Potatoes, 90c per bushel	1½	6.67	0.10	0.01	0.93	1970
Potatoes, 60c per bushel	1	10.00	0.15	0.01	1.40	2950
Potatoes, 45c per bushel	¾	13.33	0.20	0.01	1.87	3935
Turnips	1	10.00	0.08	0.01	0.54	1200
Apples	1½	6.67	0.02	0.02	0.65	1270
Bananas	7	1.43	0.01	0.01	0.18	370
Oranges	6	1.67	0.01	.....	0.13	250
Strawberries	7	1.43	0.01	0.01	0.09	215
Sugar	6	1.67	.....	.....	1.67	2920

SPANISH CREAM

2 tbsp. granulated gelatine
3 c. milk
3 egg yolks
½ c. sugar
⅛ tsp. salt
3 egg whites
1 tsp. vanilla

Reserve ¼ c. milk to soak gelatine. Scald the remaining 2¾ c. of milk. Separate the eggs, beat the yolks, add the sugar and salt; stir in the scalded milk slowly and cook in double boiler until custard thickens, stirring all the time. Remove from fire, add the soaked gelatine and stir until dissolved, then strain. Beat the whites until stiff, fold into mixture. Flavor and turn into cold wet mold. Chill.

LEMON PUDDING

1½ tbsp. granulated gelatine
½ c. cold water
½ c. sugar
4 yolks
4 whites
Juice and rind 1 lemon

Soak the gelatine in the cold water. Dissolve over boiling water. Beat yolks until thick and lemon-colored. Add sugar gradually; beat thoroly; add the dissolved gelatine mixed with the lemon juice and rind. Stir until it begins to thicken, then fold in the stiffly beaten whites. Place in a mold and chill. Serve with sweetened and flavored whipped cream (Lesson 37B).

ORANGE CHARLOTTE

2½ tbsp. granulated gelatine
½ c. cold water
½ c. boiilng water
1 c. sugar
1 c. orange juice
Grated rind of 1 orange
2 tbsp. lemon juice
Whip from 3 c. cream

Soak gelatine in cold water. Dissolve in boiling water. Add sugar, fruit juice and rind. Set bowl in ice water, stir constantly until it begins to thicken, then fold in whip from cream, adding ⅓ at a time. Line a mold with orange sections. Fill mold and chill.

Strawberries. raspberries, pineapple, etc., may be used in place of the orange.

TEST QUESTIONS

1 2 3 4 5

COURSE LUNCHEON

Color—Green and White

I. Cream of Potato Soup.

II. Jellied Veal with Creamed Potatoes. Mint Ice.

III. Lettuce and Banana Salad.

IV. Ice Cream in Angel's Cake Basket. Angelica or candy handle.

V. Coffee.

SIMPLE DINNER

MENU I—Red Color Scheme

Tomato Soup

Radishes Croutons

Meat Loaf

Mashed Potatoes Buttered Beets

Blanc Mange Strawberry Sauce

MENU II

Vegetable Soup

Braized Breast of Lamb

Mashed Potatoes Stewed Tomatoes

Fruit Salad

Prune Whip Custard Sauce

COST OF PREPARING ABOVE MENUS TO SERVE SIX

Materials	Quantity	Cost

INDIVIDUAL RECIPES—SEMESTER III.

LESSON 35B

STUFFED EGGS

1 hard cooked egg
1 tsp. finely chopped ham
3 tbsp. white sauce
2 tbsp. buttered crumbs

LESSON 36B

CARAMEL CUSTARD

½ c. scalded milk
½ egg
2 tbsp. sugar
1-16 tsp. salt
⅛ tsp. vanilla

LESSON 37B

COTTAGE CHEESE

¾ c. sour milk
½tsp. butter
Few grs. salt
1 tsp. cream

LESSON 38B

CHEESE FONDUE

2 tbsp. scalded milk
2 tbsp. bread crumbs
4 tbsp. cheese (cut fine)
½ tsp. butter
1-16 tsp. salt
¼ yolk and ¼ beaten white

CHEESE STRAWS

1¼ tbsp. flour
Few grs. salt
½ tsp. butter
2 tbsp. bread crumbs
2 tbsp. grated cheese
1 tsp. milk (or enough to make a dough)

LESSON 39B

VANILLA ICE CREAM

⅓ c. cream
1 tbsp. sugar
⅓ tsp. vanilla

Add walnuts or ¼ square chocolate melted and cooked with 1 tbsp. sugar, 2 tbsp. boiling water.

MILK SHERBET

¼ c. milk
2 tbsp. sugar
1 tbsp. lemon juice (level)

LESSON 40B

BEEF LOAF

2 tbsp. chopped meat
4 drops onion juice
⅛ tsp. salt
Few grs. pepper
1 tsp. beaten egg
¼ tsp. chopped parsley
½ tsp. chopped suet
1 tbsp. bread crumbs
2 tsp. milk

LESSON 40B

TOMATO SAUCE

¼ c. water
¼ c. tomato juice
¼ slice onion
1 clove
⅙ tsp. salt
1 tsp. butter
2 tsp. flour and 2 tsp. water

Prepare mashed potato, using 1 potato.

LESSON 41B

BEEF STEW

1 small piece of meat
1½ tsp. flour
1 slice turnip
1 slice carrot
1 slice onion
4 slices potato
½ c. water or more
¼ tsp. salt
Few grs. pepper
Small piece of suet to brown half of meat

Prepare beef stock omitting flour and potatoes, as shown in beef stew recipe.

DEMONSTRATE BEEF A LA MODE

LESSON 42B

HAMBURG STEAK

2 tbsp. chopped meat
⅙ tsp. salt
Few grs. pepper
1 tsp. milk
Few drops onion juice

LESSON 43B

VEAL BIRDS

1 thin slice veal
3 tbsp. bread crumbs
½ tsp. butter
½ tsp. chopped parsley
Few drops onion juice
Few grs. celery salt
⅛ tsp. salt
Few grs. pepper
1 tsp. milk or stock

INDIVIDUAL RECIPES—SEMESTER III.

LESSON 46B

VEAL CROQUETTES

¼ c. chopped veal
⅛ tsp. salt
2 tbsp. THICK sauce (level)
⅛ yolk

POTATO CROQUETTES

¼ c. riced potatoes
Few grs. celery salt
⅛ tsp. chopped parsley
½ tsp. butter
⅛ egg yolk

LESSON 50B

FISH BALLS

¼ c. cod fish
1 potato
½ tsp. butter
1 tbsp. egg

SALMON LOAF

2 tbsp. salmon
½ tsp. butter
½ yolk
Few grs. pepper
1 tbsp. crumbs
2 tsp. milk
⅛ tsp. parsley
1-16 tsp. salt
½ white

LESSON 51B

OYSTER STEW

6 oysters
½ c. scalded milk
1 tsp. butter
⅓ tsp. salt

LESSON 52B

LEMON JELLY

1 tsp. (slightly rounding) granulated gelatine
2 tbsp. cold water
¼ c. boiling water
2 tbsp. sugar
1 tbsp. lemon juice
½ tsp. lemon rind

LESSON 53B

LEMON PUDDING

1 tsp. gelatine
2 tbsp. cold water
2 tbsp. sugar
1 beaten yolk
1 beaten white
1 tbsp. lemon juice

ORANGE CHARLOTTE

1 tsp. gelatine
2 tbsp. cold water
1 tbsp. boiling water
} Dissolve over boiling water
2 tbsp. sugar
2 tbsp. orange juice
Grated rind ¼ orange
1 tsp. lemon juice
⅓ c. whipped cream

NOTES:

HEAT PRODUCERS

FATS AND OILS

(See Lesson 16A)

SOURCE.—Fats and oils are obtained from the animal and vegetable kingdoms. They contain three substances: Stearin (solid), Palmitin (semi-solid), Olein (liquid).

USES IN THE BODY.—The fats and oils store up heat and energy; they also act as a lubricant.

IN THE ANIMAL KINGDOM fat is found in layers under the skin, around the kidneys and other vital organs, about the joints, between the vertebrae, in all tissues, in the blood stream and around the nerves. The source of fat in the body, is to a certain extent from the fat of food, also from decomposition of the proteids and a large proportion of carbohydrates. Among the animal fats, cream and butter are the most important on account of their easy assimilation.

FAT IS THE MOST VALUABLE to poorly nourished people, convalescents, consumptives, diabetics, nervous people, growing children, and those who have poor blood (anemics).

DIGESTION OF FATS.—Fat is acted upon by the steapsin of the pancreatic juices and the bile in the smaller intestines, where it is divided into such tiny globules that it can be readily absorbed by the cell walls.

WHY FRIED FOOD AND PASTRY ARE HARD TO DIGEST.—Fat is not acted upon by the saliva in the mouth, nor the gastric juices in the stomach; so when particles of food which should be acted upon by these fluids are entirely coated with grease they cannot be reached and therefore enter the smaller intestines undigested. Here the fat is removed from them by the action of the pancreatic juices, which do their best to digest all, but as they were not intended to do all the work, much of the food is passed on undigested. In pastry there is also another reason, namely, that so little water is added to the fat coated starch granules that they cannot swell and burst sufficiently. Starch grains must absorb water, swell and burst before they can be digested.

REMEMBER, it is the part of the food that comes in contact with the hot fat in frying that is rendered difficult of digestion. Follow directions for frying in Lesson 46A.

EXAMPLES OF ANIMAL FATS are fat of meats, as in bone-marrow, suet, fat of fish, fat of milk and eggs. Among the animal fats, cream and butter are the most important on account of their easy assimilation.

EXAMPLES OF VEGETABLE FATS are the fat found in seeds, fruits and nuts.

Cream, butter, olive oil, bacon, corn meal, oatmeal, nuts and chocolate, are fats valuable for the fat they contain.

When a recipe calls for melted shortening, melt fat over hot water.

To add butter to soups and sauces after they are taken off the fire is considered the best way. Over-heated butter loses some of its flavor and is difficult to digest.

Never throw away pieces of fat; try them out and save them for cooking purposes.

Butter is considered the most valuable fat when it is fresh and sweet. Rancid butter should not be used. When butter is expensive substitutes may be used. Oatmeal and cornmeal are rich in fat and furnish the body with fat in an inexpensive form.

NOTES:

BACON—I

Take off the rind and cut bacon into thin slices. Cook in a hot frying pan, turning slices frequently until crisp and brown, or cover bottom of frying pan with water, put in bacon, cook until water has evaporated, then continue cooking, turning slices until nicely browned. Drain on soft paper.

BACON II

Put thin slices of bacon in a broiler placed over a dripping pan and bake in a hot oven until bacon is crisp. Turn once during baking. Drain on soft paper. Oysters may be wrapped in thin slices of bacon and baked in this way.

LIVER AND BACON

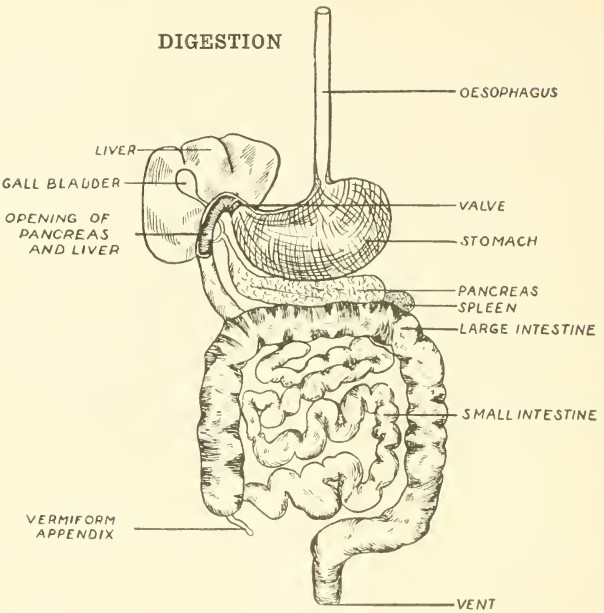
Cut 1 lb. of liver into ¼ inch slices. Cover with boiling water, let stand 5 minutes to draw out the blood; drain, remove veins and skin. Wipe the liver, sprinkle with salt and pepper, and cook in hot bacon fat until brown on both sides, turning occasionally. Make a gravy, using 2 tbsp. of the bacon fat and 4 tbsp. of flour. Brown the two in a pan, add 2 c. boiling water gradually and stir until smooth, season with salt and pepper. Put the browned slice of liver into the gravy and cook slowly 15 minutes. Put liver and gravy on a hot dish, arrange the crisp bacon around the edge and serve. Liver may be larded and baked in one large piece.

Baked Beans and Brown Bread

BAKED BEANS

1 qt. beans	1 tsp. salt	¼ c. molasses
¼ lb. salt fat pork	1 tsp. mustard	

Pick over and wash pea beans; cover with cold water and soak over night. In the morning drain, cover with fresh water and cook slowly below boiling point until soft, then drain. Put ¼ inch slices of salt pork fat in bottom of an earthen bean pot or covered crock. Put beans in pot and bury the remaining pork (which should be gashed in several places) in the beans. Mix the salt, mustard and molasses in a cup; fill the cup with boiling water and pour the mixture over the beans. Add enough more boiling water to cover beans. Cover bean pot, put in oven, and bake in a moderate oven 8 hours. If baked a long time they become dark and have a rich flavor. One cup butter may be used instead of the pork.



Before the food we eat becomes blood and later the bone, nerve, muscle, skin, hair, etc., it undergoes a number of changes.

The processes are:

1. Digestion.
2. Absorption.
3. Assimilation.
4. Elimination.

Digestion is the process by which the food taken into the body is changed by the action of the digestive fluids into a liquid form, so that it can be absorbed by the cell walls.

Absorption is the process by which the digested food passes thru the cell walls (villi) into the blood and lymph stream, so that it can be carried to the parts where it is needed.

Assimilation is the process by which the absorbed food is made like the different parts of the body. When a cell needs nourishment or repair it selects from the blood stream the necessary material for its use.

Elimination is the process by which useless material like undigested food and waste materials formed by chemical changes are excreted by the skin, lungs, kidneys and the large intestines. (See Lesson 15A.)

FIVE IMPORTANT ORGANS OF DIGESTION

Organ	Digestive Fluid	Ferment	Nature of Ferment	Substance acted upon
1. Mouth	Saliva	Ptyalin	Alkaline	Starch†
2. Stomach	Gastric	Renin, pepsin and hydrochloric acid	Acid	Proteids‡
3. Small intestines.—INTESTINAL			Acid and Alkaline	Starch, proteids, fats
4. Pancreas		Amylopsin		Starch†
		Trypsin	Alkaline	Proteids‡
		Steapsin		Fats*
5. Liver	Bile		Neutral	Fats*

*The pancreas secretes the pancreatic juice and the liver secretes the bile, but no food is digested in them.

The pancreatic juices and liver pour into the intestines their digestive fluids and these complete the process of digestion, as they act upon all foods.

† See Lesson 16A. ‡ See Lesson 35A. * See Lesson 55A.

DOUGHNUTS—I

1 c. sugar	1 c. milk	¼ tsp. cinnamon
2½ tbsp. butter	3½ c. flour—add enough to roll	½ tsp. grated nutmeg
3 eggs	5 tsp. baking powder	1½ tsp. salt

Cream the butter; add ½ of the sugar. Beat eggs until light, add milk, remaining sugar, and combine mixtures. Add the flour mixed and sifted with baking powder, salt and spices, then enough more flour to make a dough stiff enough to roll. Toss ⅓ of mixture onto floured board, knead slightly, pat and roll out to ¼ inch thickness. Shape with a doughnut cutter, dipped in flour. Fry in deep fat and drain on brown paper. Brown the doughnuts on one side, then turn and brown on the other. They should be turned only once unless turned immediately after rising to the top of the fat. Doughnuts should rise to the top almost immediately when put into smoking hot fat.

DOUGHNUTS—II

5 c. flour	1 tsp. salt	1 c. cream
1 tsp.soda	¼ tsp. cinnamon	3 beaten eggs
3 tsp. cream of tartar	⅛ tsp. grated nutmeg	1 c. sugar

Mix and sift flour, soda and cream of tartar and seasonings. Beat the eggs and add the sugar and cream. Add to dry ingredients and mix with a knife; add enough flour to make a dough stiff enough to roll. Pat, roll and shape as in Recipe I.

SOUR MILK DOUGHNUTS

4 c. flour—add enough to knead	1 tsp. B. P.	½ c. sweet milk
1 tsp. soda	½ tsp. salt	¾ c. sour milk
½ tsp. cinnamon	1 well beaten egg	1 tsp. melted butter
	1 c. sugar	

Mix according to directions for Doughnut Recipe II.
Add enough flour to knead, pat, roll, shape and fry as in Recipe I.

APPLE FRITTERS

2 apples cut in cubes	2 tsp. baking powder	⅓ c. milk
1 c. flour	3 tbsp. sugar	1 egg
	¼ tsp. salt	

Mix and sift dry ingredients; add milk to the well beaten egg; combine mixtures, then add the apples. Drop by spoonfuls and fry in deep fat, dipping the spoon into hot fat between each spoonful. Drain on brown paper and sprinkle with powdered sugar.

STEAMING

STEAMING is cooking over the steam from boiling water.

STEAMING may be done in a perforated steamer over a kettle containing boiling water.

A cooker or sterilizer may be used.

Cooking in the upper part of a double boiler, where the steam does not come in direct contact with the food is called dry steaming.

Foods cooked in the upper part of the double boiler do not reach the boiling point of water, which is 212 deg. F. Salt added to the water in the lower part of the double boiler will raise the temperature.

A double boiler is most useful for making custards, scalding milk, and cooking cereals, as it insures even cooking, prevents it from wasting or drying on the boiler, makes stirring unnecessary, and removes all chances of burning, so long as there is water in the lower part of the double boiler.

Steaming is a slower process than boiling.

Tough meats, hams, fruit cakes, puddings, etc., require a long moist heat.

Fish, potatoes, sweet corn, rice, peas, beans, squash, cucumbers, and pumpkins, may be steamed to advantage.

GENERAL DIRECTIONS FOR STEAMED MIXTURES

A mold, a tin pail or a can with a tightly-fitting cover, may be used.

Grease the inside of the mold thoroly.

The molds may be covered with buttered paper, or the inside of the cover buttered, and this should be tied down securely.

The cans should be filled two-thirds full.

Place the mold on a trivet or several layers of soft paper in a large kettle, containing enough boiling water to reach half way to the top of the mold.

Keep the water boiling all the time during the steaming. Add more boiling water if necessary.

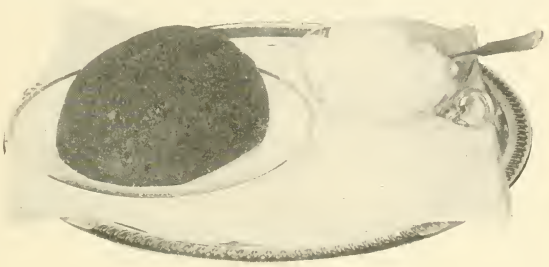
Cover the kettle during the steaming, and be careful not to jar it while cooking.

NOTES:

STEAMED BREAD

1½ c. graham flour
1 tsp. salt
1 c. Indian meal
½ tbsp. soda
½ c. molasses
1⅔ c. milk

Mix and stir the dry ingredients. Add molasses and milk. Fill cans ⅔ full, and steam three hours in a large mold. Less time is required if cooked in small baking powder or cocoa cans.



ENTIRE WHEAT PUDDING

1½ c. entire wheat flour
½ tsp. soda
½ tsp. salt
½ c. molasses
½ c. milk or water
1 egg beaten
2 tbsp. butter, melted
1 c. chopped raisins

Mix and sift dry ingredients. Add molasses and milk. Add beaten egg and melted butter, then the raisins. Chopped figs or dates may be used. Steam 2½ hours in a large mold.

HARD SAUCE

½ c. butter
1 c. powdered sugar
½ tsp. lemon extract
⅔ tsp. vanilla extract

Cream the butter, add sugar gradually, and flavoring.

HUNTER'S PUDDING

⅔ c. chopped suet
⅔ c. molasses
⅔ c. milk
2 c. flour
⅔ tsp. soda
1 tsp. salt
⅓ tsp. clove
⅓ tsp. mace
⅓ tsp. allspice
⅓ tsp. cinnamon
1 c. raisins in 2 tbsp. flour
¼ c. chopped nut meats

Mix in the order given. Steam 2½ hours. Serve with yellow sauce.

YELLOW SAUCE

2 eggs
1 c. powdered sugar
1 tsp. vanilla

Beat yolks of eggs; add sugar gradually.
Fold in stiffly beaten whites; flavor.

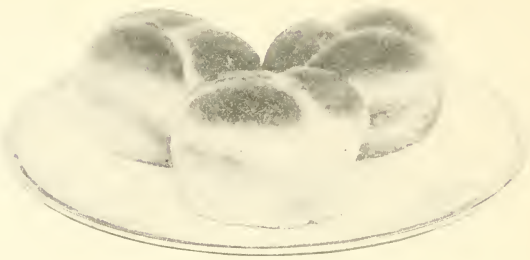
PLUM PUDDING WITHOUT EGGS

1 qt. cooked mashed carrots
1 lb. finely chopped suet
½ c. sugar

Sift together:
2 c. flour
1½ tsp. salt
1 tsp. cinnamon
½ tsp. clove
½ grated nutmeg

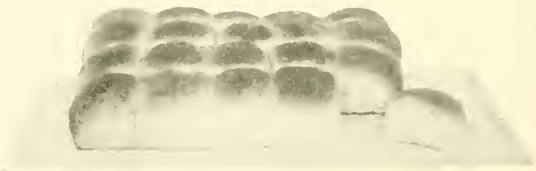
Dredge with flour:
¾ lb. currants
¾ lb. raisins
½ lb. citron

Mix ingredients in order given. Steam 3½ hours in a buttered mold. May be steamed in individual molds. Carrots should be forced thru a fine strainer.



BREAD AND BREAD MAKING

The word bread comes from ancient words meaning to bruise, break or pound. It also conveys that it is made from crushed or ground grain. Many different kinds of grains are used in different countries. In the United States, wheat is the grain most commonly used. Bread is often spoken of as the staff of life.



Milk and water bread is considered the best combination. The liquids used should always be scalded to kill any dust plants that might be present. The liquids should be lukewarm before the yeast is added. Why?

Essential ingredients for bread making are: Flour, liquid and a leavening agent. Salt, sugar and shortening are added to give flavor.

Flour (see Lesson 23).

Experiments with flour:

I. Put 4 tbsp. white flour into a piece of double cheese-cloth. Wash this in a glass containing cold water until the water becomes cloudy. Divide in two.

(a) Test one-half of it with iodine. What is the result?

(b) Pour the other half into a saucepan and heat it to boiling point. What is the result?

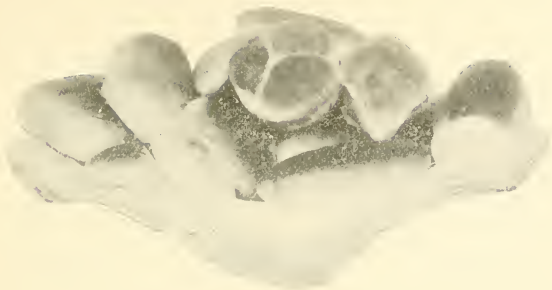
(c) Examine the sticky substance left in the cheese cloth. Knead it until it is elastic and rubber-like. Test it with iodine. What is the result?

It should be free from starch and represent the proteid matter in wheat called gluten. It is this gluten that gives the flour the power to hold the gas bubbles formed by the action of yeast.

Liquid. (See Lesson 31A.)

Milk produces the whitest and most tender loaf.

Water produces a loaf that will keep moist the longest.



(See Lesson 31A.)

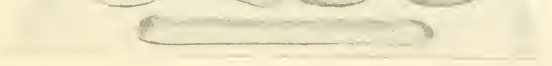
PARKER HOUSE ROLLS

1 c. boiling water	3 tbsp. sugar	3 tbsp. butter
1 c. scalded milk	1 tsp. salt	Flour

1 yeast cake mixed with ¼ c. lukewarm water

Add sugar, salt and butter to milk and water. When lukewarm, add the yeast cake mixed with the water and three cups flour. Beat vigorously; add more flour to make a dough. Rub a little flour on the moulding board and turn the dough onto it. Dust a little flour on the palm of your hands, and knead the dough until it is smooth and elastic to the touch, and will not stick to the board or hands. Return to bowl, cover closely, and let it stand in a warm place until double its bulk. Turn the dough on a board and knead again until no large bubbles can be seen. Shape dough into biscuits, let rise again, then with the handle of a case-knife dipped in flour, crease thru the middle of each biscuit, or roll with rolling pin to oblong shape. Brush ½ of each with melted butter, fold and press together. Place in greased pans, one inch apart; cover, let rise and bake in a hot oven 12 to 15 minutes.

CLOVER-LEAF biscuits may be made by shaping round biscuits; brush them with melted butter; drop three of them into each well greased muffin pan. Let rise and bake.



Different Shapes

SWEET ROLLS

1 c. milk	¼ c. sugar	Yolks of 3 eggs
1 tsp. salt	¼ c. melted butter	Grated rind of 1 lemon

1 yeast cake mixed with ¼ c. lukewarm water. Flour.

Scald the milk; add the salt and sugar; when lukewarm add the yeast mixture and 1½ c. flour; beat well, cover and let rise until double its bulk. Add the butter, well beaten yolks, lemon rind and enough flour to knead. Knead, let rise again until double its bulk. Shape, place in a buttered pan, let rise again and bake. Few grains of ground cardamon may be added.

NOTE.—Use as little flour as possible on the board when kneading the dough. Remove biscuits from the pan as soon as baked, and cool so the air may circulate freely around the biscuits. If tender crust is desired, rub the crust with a little butter just before taking the biscuits from the oven.

YEAST AND ITS ACTION

(See Lesson 30A.)

Compressed yeast is usually yeast obtained from the froth of beer.

Recipe for home-made yeast:

5 small or 4 large grated potatoes	½ c. sugar 2 tbsp. salt 1 qt. boiling water	1 yeast cake mixed with ½ c. lukewarm water

Add grated potatoes to boiling water and boil 5 minutes while stirring. Cool, add sugar, salt and yeast cake mixture. Pour into a stone or glass jar, cover, and let stand in a warm place for 3 hours or more. Each time mixture reaches top of jar stir it down. Do this until fermentation ceases, then put away in a cool place. Cover.

Use ½ cupful of this in place of one yeast cake when making bread or biscuits.

Use until there is only ½ cupful left, then prepare according to recipe above, using the ½ cupful of yeast in place of the yeast cake.

Mechanical processes are:

1. Mixing.
2. Beating.
3. Kneading and Molding.

MIXING

The flour should be thoroly mixed with a sufficient quantity of liquid so that each grain of flour may be thoroly hydrated (water-soaked), the sugar dissolved and the gluten sufficiently moistened.

BEATING

The mixture should be thoroly beaten to enclose as much air as possible and to distribute these air cells. Beating the mixture will make it elastic. The longer it is beaten the less kneading is required.

KNEADING

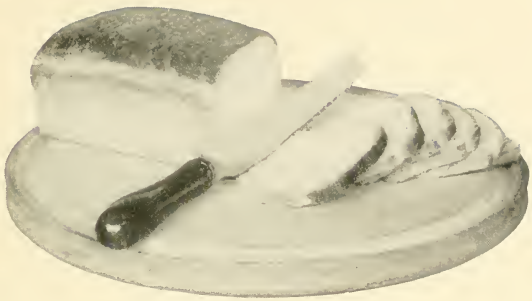
The mixture should be kneaded thoroly to make the gluten elastic, to break the bubbles and to distribute evenly the CO_2, thereby forming a fine-grained loaf.

Molding is simply the shaping of the dough into loaves.

BAKING

Bread is baked—1. To cook the starch. 2. To expand the gases and to harden the cell walls. 3. To kill the yeast plants. 4. To evaporate the alcohol formed. 5. To brown the crust.

NOTE:



(See Lesson 30A.)

WHITE BREAD

1 c. scalded milk	1 tbsp. lard	1 yeast cake mixed with ¼ c. lukewarm water
1 c. boiling water	1½ tsp. salt	
1 tbsp. butter	1 tbsp. sugar	6 c. flour

Add butter, lard, salt and sugar to the milk and water; let stand until lukewarm; add yeast cake mixed with the lukewarm water and 5 cups flour. Stir until smooth, then add enough flour (gradually) to make a dough stiff enough to knead. Turn the dough onto a floured board, knead until smooth and elastic to the touch. Return to bowl, cover closely, and let it stand in a warm place until double its bulk. Knead again and shape into loaves, and place in greased pans. Cover. Let it rise until double its bulk. Bake in a hot oven 50 to 60 minutes. Have the crusts brown on all sides.

ENTIRE WHEAT BREAD

1 c. boiling water	⅓ c. molasses	4⅔ c. coarse entire wheat flour
1 c. scalded milk	1 tsp. salt	2⅔ c. flour

1 yeast cake dissolved in ¼ c. lukewarm water

Add sweetening and salt to milk; cool, and when lukewarm add yeast cake mixture and 5 c. flour mixed and sifted. Beat mixture well; add enough flour to make a dough stiff enough to knead; knead, cover and let rise to double its bulk. Knead again, shape, place in greased bread pans, having pans ½ full. Let rise and bake.

RYE BREAD

May be made as directed for entire wheat bread, using rye flour in place of the whole wheat flour.

Remember to let dough rise to double its bulk each time.

CAKE FILLINGS AND FROSTINGS

(See Lesson 28)

ORANGE FILLING

½ c. sugar	1 egg slightly beaten	¼ c. orange juice
2 tbsp. flour	Grated rind ½ orange	1 tsp. lemon juice

Mix sugar and flour; add other ingredients in order given. Cook 10 minutes in a double boiler, stirring constantly until thickened. Cool before spreading.

ORANGE FROSTING

1 tbsp. orange juice	Yolk 1 egg	Grated rind 1 orange
1 tsp. lemon juice	Confectioners' sugar	

Add rind to the fruit juices; let stand 15 minutes, strain and add gradually to yolk of egg slightly beaten. Stir in sugar until of right consistency to spread.

PLAIN FROSTING

White 1 egg	2 tsp. cold water	¾ c. confectioners sugar
	½ tsp. vanilla	

Beat the white of egg until stiff; add water and sugar gradually. Beat thoroly and add the flavoring. Use more sugar if needed.

WHITE MOUNTAIN CREAM

1 c. sugar	White 1 egg	½ tbsp. lemon juice
⅓ c. boiling water	1 tsp. vanilla	

Boil sugar and water in a saucepan until it forms 2-inch "threads" when tried with a fork, or until it forms a soft ball in cold water. Pour syrup gradually into beaten white of egg; beat constantly until of right consistency to spread. Add flavoring and pour over cake.

CHOCOLATE FROSTING

1½ c. sugar	1 sq. chocolate	½ tsp. vanilla
⅔ c. milk	1 tsp. butter	

Put butter in a saucepan; when melted add the sugar, milk and chocolate. Boil 13 minutes, or until it makes a soft ball when tried in cold water. Let stand until cooled. Beat until creamy. Add flavoring and pour over cake.

White Cake with Cocoanut Frosting

WHITE CAKE

½ c. butter
1½ c. sugar
⅔ c. milk
2⅓ c. flour
3 tsp. baking powder
Whites 4 eggs
1½ tsp. vanilla

Cream the butter; add sugar gradually, then milk alternately with the flour sifted with the baking powder. Fold in the stiffly beaten whites. Add the flavoring and bake in layers about 15 minutes. Frost with White Mountain Cream Frosting.

PLAIN CAKE

¼ c. butter
½ c. sugar
1 egg
½ c. milk
1½ c. flour
2½ tsp. baking powder

Cream the butter; add sugar gradually and egg well beaten. Mix and sift flour and baking powder; add alternately with milk. Bake 30 minutes in a shallow pan.

ORANGE CAKE

¼ c. butter
1 c. sugar
2 eggs
Rind ½ orange
2½ tsp. baking powder
½ c. milk
1⅔ c. flour

Cream the butter; add sugar gradually, eggs well beaten, and milk. Then add flour mixed and sifted with baking powder and orange rind. Bake in round layer cake pans. Put Orange Filling between layers, and cover top with Orange Frosting.

May be baked in individual tins and frosted with confectioners' or White Mountain Cream Frosting. Decorate with nuts, angelica candied cherries, etc. See illustration.

CHOCOLATE CAKE

1½ c. butter
1 c. sugar
2 eggs
½ c. milk
1½ c. flour
2½ tsp. baking powder
2 oz. chocolate
½ tsp. vanilla

Cream the butter; add sugar gradually, eggs well beaten, and milk. Add flour mixed and sifted with baking powder. Beat thoroly, then add chocolate and vanilla. Bake in layers. Frost with White Mountain Cream Frosting to which 3 tbsp. of grated chocolate have been added.

BULLETIN No. 28.—Average Composition of American Food Products

FOOD MATERIALS (as purchased)	Refuse	Water	Protein	Fat	Carbo-hydrates	Ash	Fuel Value per Pound
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Calories
EGGS: Hens' eggs	11.2	65.5	13.1	9.3	.....	.9	613
DAIRY PRODUCTS, ETC.:							
Butter	.....	11.0	1.0	85.0	.....	3.0	3,450
Whole Milk	.....	87.0	3 3	4.0	5.0	.7	312
Skim Milk	.....	90.5	3.4	.3	5.1	.7	166
Buttermilk	.....	91.0	3.0	.5	4.8	.7	162
Condensed milk	.....	26.9	8.8	8.3	54.1	1.9	1,476
Cream	.....	74.0	2.5	18.5	4.5	.5	874
Cheese, Cheddar	.....	27.4	27.7	36.8	4.1	4.0	2,063
Cheese, full cream	.....	34.2	25.9	33.7	2.4	3.8	1,874
VEGETABLE FOOD.							
FLOUR, MEAL, ETC.:							
Entire Wheat Flour	.....	11.4	13.8	1.9	71.9	1.0	1,632
Graham flour	.....	11.3	13.3	2.2	71.4	1.8	1,626
Wheat flour, patent roller process							
High grade and medium	.....	12.0	11.4	1.0	75.1	.5	1,610
Low grade	.....	12.0	14.0	1.9	71.2	.9	1,623
Crushed wheat	.....	10.1	11.1	1.7	75.5	1.6	1,640
Buckwheat flour	.....	13.6	6.4	1.2	77.9	.9	1,578
Corn meal	.....	12.5	9.2	1.9	75.4	1.0	1,612
Oatmeal	.....	7.3	16.1	7.2	67.5	1.9	1,808
Rice	.....	12.3	8.0	.3	79.0	.4	1,591
Tapioca	.....	11.4	.4	.1	88.0	.1	1,668
Starch	.....	.....	.....	.....	90.0	.....	1,633
BREAD, PASTRY, ETC.:							
White bread	.....	35.3	9.2	1.3	53.1	1.1	1,183
Brown Bread	.....	43.6	5.4	1.8	47.1	2.1	1,025
Graham bread	.....	35.7	8.9	1.8	52.1	1.5	1,179
Whole wheat Bread	.....	38.4	9.7	.9	49.7	1.3	1,114
Rye Bread	.....	35.7	9.0	.6	53.2	1.5	1,153
Cake	.....	19.9	6.3	9.0	63.3	1.5	1,626
Cream Crackers	.....	6.8	9.7	12.1	69.7	1.7	1,929
Oyster crackers	.....	4.8	11.3	10.5	70.5	2.9	1,908
Soda crackers	.....	5.9	9.8	9.1	73.1	2.1	1,872
Macaroni	.....	10.3	13.4	.9	74.1	1.3	1,600
SUGARS, ETC.:							
Molasses	.....	25.1	2.4	.....	69.3	3.2	1,301
Candy	.....	.....	.....	.....	96.0	.....	1,742
Honey	.....	18.2	.4	.....	81.2	.2	1,481
Sugar, granulated	.....	.....	.....	.....	100.0	.....	1,814
Maple syrup	.....	.....	.....	.....	71.4	.....	1,295

From the United States Department of Agriculture.

Ice Cream in Sponge Cake Basket

NOTES:

(See Lesson 28)

CHEAP SPONGE CAKE

Yolks 2 eggs
¾ c. sugar
2 tsp. hot water
⅔ c. flour
1 tsp. baking powder
⅙ tsp. salt
Whites 2 eggs
½ tbsp. vinegar

Beat yolks until thick; add sugar gradually and continue beating; then add water, flour mixed and sifted with the baking powder and salt. Fold in the stiffly beaten whites of eggs and vinegar. Bake 35 minutes in a moderate oven in an unbuttered or a buttered and floured cake pan.

CREAM SPONGE CAKE

Yolks 4 eggs
1 c. sugar
3 tbsp. cold water
1½ tbsp. cornstarch
1 c. flour (scant)
1½ tsp. baking powder
1 tsp. lemon extract
¼ tsp. salt
Whites 4 eggs

Beat yolks until thick; add sugar gradually and beat 2 minutes. Then add water. Mix and sift cornstarch, flour, baking powder and salt, and add to first mixture. Fold in stiffly beaten whites and flavoring. Bake about 20 minutes in a moderate oven. This cake may be made with two eggs, and using 2 tsp. baking powder and 3 tbsp. water.

ANGEL'S FOOD

Whites 8 eggs
1 tsp. cream of tartar
1 c. sugar (sifted 4 times)
¾ c. flour (sifted 4 times)
¼ tsp. salt
¾ tsp. vanilla

Beat whites until frothy; add cream of tartar and continue beating until stiff. Sift flour and sugar separately four times, then together; fold into the stiffly beaten whites, adding it at the side of the bowl; add vanilla, and bake in an unbuttered baking tin about 45 minutes.

SMALL SUNSHINE CAKE

Whites 5 eggs
¾ c. powdered sugar
Yolks 3 eggs
½ tsp. vanilla
½ c. flour
½ tsp. cream of tartar

Beat whites until frothy; add cream of tartar. Beat until stiff and dry, add sugar gradually, continue beating; add beaten yolks and extract. Fold in sifted flour. Bake as Angel Cake, allowing about 30 minutes for baking.

FOOD VALUE OF NUTS, ETC.

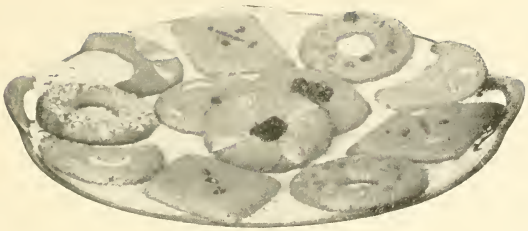
BULLETIN No. 28.—Average Composition of American Pood Products

FOOD MATERIALS (as purchased)	Refuse	Water	Protein	Fat	Carbo-hydrates	Ash	Fuel Value per Pound
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Calories
NUTS:-							
Almonds	45.0	2.7	11 5	30.2	9.5	1.1	1,600
Beechnuts	40.8	2.3	13 0	34.0	7.8	2.1	1,750
Brazil nuts	49.6	2.6	8 6	33.7	3.5	2.0	1,580
Butternuts	86.4	.6	3.8	8.3	.5	4	413
Chestnuts, fresh	16 0	37.8	5.2	4.5	35.4	1.1	918
Chestnuts, dried	24.0	4.5	8.1	5.3	56.4	1.7	1,884
Cocoanuts	48.8	7.2	2.9	25.9	14.3	.9	1,358
Cocoanut, prepared		3.5	6.3	57.4	31.5	1.3	3,003
Filberts	52.1	1.8	7.5	31.3	6.2	1.1	1,512
Hickory nuts	62.2	1.4	5 8	25.5	4.3	.8	1,213
Pecans, polished	53.2	1.4	5.2	33.3	6.2	.7	1,551
Peanuts	24.5	6.9	19.5	29.1	18.5	1.5	1,864
Pinon (Pinus edulis)	40.6	2.0	8.7	36.8	10.2	1.7	1,829
Walnuts, California, black	74.1	.6	7.2	14.6	3.0	.5	774
Walnuts, California, soft-shell	58.1	1.0	6.9	26.6	6.8	.6	1,322
RAISINS	10.0	13.1	2.3	3.0	68.5	3.1	1,406
MISCELLANEOUS:							
Chocolate	.....	5.9	12.9	48.7	30.3	2.2	2,750
Cocoa, powdered	.....	4.6	21.6	28.9	37.7	7.2	2,242
Cereal coffee infusion (1 part boiled in 20 parts water)		98.2	.2	.....	1.4	.2	29

From the United States Department of Agriculture.

NOTES:

PART I



SUGAR COOKIES—I

½ c. butter
1 c. sugar
2 eggs beaten
3 tbsp. milk
2 c. flour
3 tsp. baking powder
¼ tsp. salt
½ tsp. grated nutmeg

Cream the butter, add the sugar gradually. Add well beaten egg, milk, and the flour mixed and sifted with the baking powder and nutmeg. Add flour to make a stiff dough. Place small portion of dough on a well-floured board, pat and roll to ⅛-inch thickness. Cut, place on a buttered baking tin, and bake in a moderate oven until light brown. One egg may be omitted, and then less flour will be required.

SUGAR COOKIES—II

1 c. sugar
½ c. lard or butter
1 tbsp. lemon juice
1 tsp. soda in 2 tbsp. milk
3 eggs beaten
Flour to make stiff enough to roll

Cream the butter, add sugar gradually, and well beaten eggs, lemon juice, soda and milk, and enough sifted flour to roll. Cut and bake.

Vanilla Cookies.—Substitute 1 tsp. vanilla for the nutmeg in Sugar Cookies I.

Chocolate Cookies.—Add three tbsp. grated chocolate or cocoa to Recipe I.

Cocoanut Cookies.—Add ½ c. shredded cocoanut to the dry ingredients in Recipe I. Roll ¼ inch thick.

Rich Cookies.—¾ c. sugar, 1 c. butter, yolks 4 eggs, 3 tbsp. milk, 4 c. flour. Combine as Recipe I.

PEANUT COOKIES: Part II

2 tbsp. butter
¼ c. sugar
1 egg well beaten
½ c. flour
1 tsp. baking powder
¼ tsp. salt
2½ tbsp. milk
¾ c. chopped peanuts
½ tsp. lemon juice

Cream the butter, add sugar gradually; add well beaten egg. Mix and sift baking powder, salt and flour; add to first mixture; then add milk, peanuts and lemon juice. Drop from a tip of a spoon on an unbuttered sheet one inch apart, and place ½ peanut on top of each. Bake 12 to 15 minutes in a slow oven. This makes 24 cookies.

BOSTON COOKIES

⅔ c. butter
1 c. sugar
2 eggs
⅔ tsp. soda
1 tbsp. hot water
2 c. flour
⅓ tsp. salt
1 tsp. cinamon
½ to 1 c. chopped nuts
⅓ c. raisins

Cream the butter, add sugar gradually, and eggs well beaten. Add soda dissolved in water, ½ flour mixed and sifted with salt and cinnamon. Then add nut meat, fruit, and remaining flour. Drop by spoonfuls onto a buttered tin, one inch apart, and bake in a moderately hot oven.

PASTRY

Pastry, if it is to be served at all, should be light, tender and flaky. It is then more easily digested.

Winter wheat flour, called pastry flour, should be used, as it makes the pastry more tender than bread flour. Less shortening is required when pastry flour is used.

The lightness of the pastry depends upon the amount of air enclosed and its expansion in baking.

The flakiness depends upon the number of layers of shortening and paste formed by folding and rolling.

GENERAL DIRECTIONS

Use butter, lard or drippings for the shortening.

Rub in shortening with the tips of the fingers or chop in with a knife.

Add enough cold water to make a stiff dough, using a knife for mixing.

All the ingredients must be cold.

Handle the dough as little as possible, and keep it as cold as possible, as heat melts the fat and makes it difficult to handle the dough.

Use as little flour as possible during the rolling.

Cut the pastry a little larger than the dish to allow for shrinkage.

RECIPE FOR PASTRY

1½ c. flour ½ tsp. salt ⅓ to ½ c. shortening

Cold water to make a stiff dough (about 4½ tbsp.).

Mix and sift the flour and salt. Rub in shortening with tips of fingers or cut it into the flour with two knives. Add the cold water, using a knife for mixing. Knead the dough lightly into a ball. Cut in two; roll into circular pieces to fit pie tin, or

Work ½ of the butter or shortening into the flour, add cold water to make a stiff dough as in Recipe I.

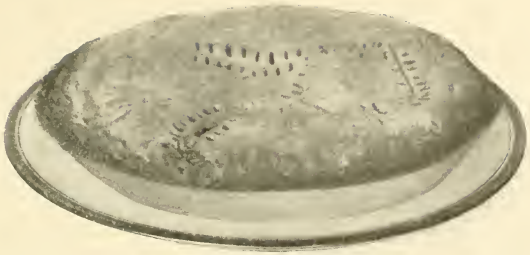
Toss on a floured board, roll out into a rectangular piece. Dot with remaining half of butter. Fold or roll up like jelly roll; cut in half and roll out for top and bottom crust.

This makes a flaky crust. Top crust should be gashed in several places to let out the steam.

NOTES:

Covering Tin With Under Crust

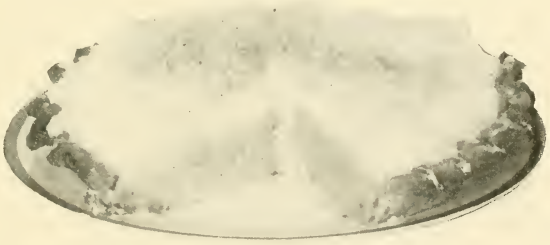
Moistening Edges of Crust With Water



APPLE PIE

5 sour apples
⅛ tsp. salt
½ c. sugar
1 tsp. butter
¼ tsp. cinnamon
1 tsp. lemon juice
⅛ tsp. nutmeg
Few gratings lemon rind

Line pie plate with paste. Pare, core and cut apples and fill the pie. Mix the dry ingredients and lemon juice, and sprinkle over apples. Dot over with butter. Wet edges of under crust, cover with upper crust, pressing the edges close together. Bake in a hot oven 40 to 45 minutes, or until fruit is cooked.



LEMON PIE—I

1 c. sugar
3 tbsp. cornstarch
1 c. boiling water
1 tsp. butter
2 egg yolks
Juice 1 lemon
Grated rind 1 lemon

Mix cornstarch and sugar; add to boiling water, stirring constantly. Cook until clear; add the butter, beaten yolks, lemon juice and rind. Cool. Line plate with paste. Prick the paste and bake. Fill with lemon mixture and cover with meringue and bake until meringue is brown.

LEMON PIE—II

3 yolks
1 c. sugar
3 tbsp. flour
Juice 1 lemon
Grated rind 1 lemon
⅙ tsp. salt
¾ c. milk

Mix sugar, flour and salt. Add to yolks. Add milk, lemon juice and rind to yolk mixture. Cover pie tin with paste. Brush with slightly beaten white of egg. Fill with yolk mixture and bake 20 minutes or more until done. Cover with meringue and brown in oven.

MERINGUE

White 2 eggs
2 tbsp. sugar or powdered sugar, and ¼ tsp. vanilla
½ tbsp. lemon juice

Beat the whites until stiff; fold in sugar and add flavoring.

RHUBARB PIE

1½ c. rhubarb
1 scant c. sugar
1 egg
2 tbsp. flour

Skin and cut rhubarb in ½-inch pieces. Mix sugar and flour; add egg and the sugar and flour. Line a plate with crust, cover with rhubarb, spread with egg mixture; cover with crust. Bake until fruit is cooked and crust is brown.

BULLETIN No. 28.—Average Composition of American Food Products

FOOD MATERIALS (as purchased)	Refuse	Water	Protein	Fat	Carbohydrates	Ash	Fuel Value per Pound
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Calories
FRUITS, BERRIES, ETC., Fresh:							
Apples	25.0	63.3	.3	.3	10.8	.3	214
Bananas	35.0	48.9	.8	.4	14.3	.6	290
Grapes	25.0	58.0	1.0	1.2	14.4	.4	328
Lemons	30.0	62.5	.7	.5	5.9	.4	140
Muskmelons	50.0	44.8	.3	.....	4.6	.3	89
Oranges	27.0	63.4	.6	.1	8.5	.4	169
Pears	10.0	76.0	.5	.4	12.7	.4	256
Persimmons, edible portion	.....	66.1	.8	.7	31.5	.9	614
Raspberries	.....	85.8	1.0	.....	12.6	.6	247
Strawberries	5.0	85.9	.9	.6	7.0	.6	168
Watermelons	59.4	37.5	.2	.1	2.7	.1	57
FRUITS, Dried:							
Apples	.....	28.1	1.6	2.2	66.1	2.0	1,317
Apricots	.....	81.4	.9	.....	17.3	.4	330
Dates	10.0	13.8	1.9	2.5	70.6	1.6	1,416
Figs	.....	18.8	4.3	.3	74.2	2.4	1,437

TABLE 2.—Comparative cost of total nutrients and energy in fruits

KIND OF FOOD MATERIAL	Price per pound	Cost of 1 pound protein	Cost of 1,000 calories energy	Amounts for 10 cents				Energy
				Total weight of food materials	Protein	Fat	Carbohydrates	
FRESH FRUITS	Cents	Dollars	Cents	Lbs.	Lbs.	Lbs.	Lbs.	Calories
Apples	1.5	5.00	7.3	6.67	0.02	0.02	0.72	1,467
Bananas	7.0	8.75	23.3	1.43	.01	.....	.21	429
Grapes	4.0	4.00	11.9	2.50	.03	.03	.36	837
Oranges	6.0	10.00	35.2	1.67	.01	.....	.14	284
Peaches	4.0	8.00	25.1	2.50	.01	.....	.19	398
Pears	3.0	6.00	11.5	3.33	.02	.01	.42	866
Plums	3.0	3.33	8.1	3.33	.03	.....	.64	1,232
Watermelons	1.5	7.50	25.0	6.67	.01	.....	.18	400
Blackberries	7.0	5.38	25.9	1.43	.02	.01	.16	386
Cranberries	5.0	12.50	23.3	2.00	.01	.01	.20	430
Currants	5.0	3.33	18.9	2.00	.03	.....	.26	530
Raspberries	7.0	7.00	27.4	1.43	.01	.....	.18	365
Strawberries	7.0	7.78	40.0	1.43	.01	.01	.10	250
DRIED FRUITS								
Apples	12.0	7.50	8.9	.83	.01	.02	.55	1,121
Dates	10.0	5.26	6.9	1.00	.02	.03	.71	1,450
Figs	15.0	3.50	10.2	.67	.03	.....	.50	988
Prunes	10.0	5.56	8.4	1.00	.02	.....	.62	1,190
Raisins	10.0	4.35	6.9	1.00	.02	.03	.69	1,445
JAMS, PRESERVES, ETC.								
Apple preserves	16.0	91.43	13.8	.62	.....	.....	.39	727
Apple butter	5.0	10.00	5.6	2.00	.01	.....	.94	1,780
Currant and raspberry jam	16.0	26.66	12.8	.62	.....	.....	.42	781
Gooseberry jam	16.0	32.00	13.2	.62	.....	.....	.40	752
Orange marmalade	16.0	26.66	10.1	.62	.....	.....	.52	983
Prune sauce	16.0	32.00	37.2	.62	.....	.....	.14	267
Strawberry preserves	16.0	26.67	12.0	.62	.....	.....	.44	833
Apple jelly	16.0	53.33	12.2	.62	.....	.....	.43	812
Currant jelly	16.0	40.00	13.4	.62	.....	.....	.40	744
Guava jelly	16.0	53.33	10.5	.62	.....	.....	.51	952
Quince jelly	16.0	80.00	13.3	.62	.....	.....	.40	750
Apricots, canned	16.0	17.78	47.1	.62	.01	.....	.11	211
Pears, canned	16.0	53.33	45.5	.62	.....	.....	.11	220
Peaches, canned	16.0	20.00	53.2	.62	.....	.....	.09	188
Grape juice	20.0	83.33	128.2	.50	.....	.....	.04	78

C. F. Langworthy, Department of Agriculture, Washington, D. C.

NOTES:

Strawberry Ice with Whipped Cream

(See General Directions for Freezing in Lesson 39A)

Water Ice is fruit juice sweetened, diluted with water, and frozen.

Sherbet is a water ice mixture to which is added dissolved gelatine or beaten whites of eggs.

Frappe is a water ice mixture frozen to a mush, using equal parts of ice and salt in freezing.

GENERAL DIRECTIONS

Boil sugar and water 20 minutes. Add the fruit juice and rind (if used), cool, strain and freeze.

ORANGE ICE

4 c. water
2 c. sugar
2 c. orange juice
½ c. lemon juice
Grated rind 2 oranges
Grated rind 1 lemon

Follow general directions.

LEMON ICE

4 c. water
2½ c. sugar
¾ c. lemon juice
Juice of 1 orange
Rind of 1 lemon and 1 orange

Follow general directions.

FRUIT ICE

2 oranges
2 lemons
2 bananas
2 c. strawberries or raspberries
2½ c. cold water
2 c. sugar

Rub the fruit thru a coarse strainer into a bowl, pour the cold water thru the strainer. Add sugar to the mixture, stir and freeze according to directions in Lesson 39A.

PINEAPPLE SHERBET

2 c. grated pineapple
Juice 1 lemon
2 c. sugar
4 c. water
1 tbsp. gelatine soaked in ¼ c. cold water

Boil the sugar and water 20 minutes. Add it to the soaked gelatine; when dissolved, add the fruit juices. Cool and freeze.

GRAPE FRAPPE

4 c. water
2 c. sugar
2 c. orange juice
2 c. grape juice
⅓ c. lemon juice

Follow general directions for freezing.

JELLY MAKING

Jellies are made, in nearly all cases, of equal quantities of cooked fruit juices and sugar.

GENERAL RULES

Select under-ripe fruit for jelly making. Under-ripe fruit contains a substance called pectose; during the process of ripening, it is changed to pectin. Pectin does not readily unite with sugar to form a jelly, but pectose does, therefore in jelly making we use fruit a little under-ripe.

Prepare the fruit. Cut large fruit into pieces (use skin and core). With watery fruits, such as grapes, currants, etc., use no water. With apples, quinces, etc., use enough water to cover fruit. Boil the fruit until the juice can be drained out easily. Drain juice thru a jelly bag or double thickness of cheese cloth.

Measure the juice and an equal quantity of sugar.

Boil the fruit juice 20 minutes. Skim. Heat sugar in the oven.

Add the heated sugar to the boiled fruit juice, continue boiling from 3 to 10 minutes, or until jelly stiffens when a little is tried on a cold plate.

Strain jelly into a heated pitcher first, then pour it into sterilized glasses. (See Lesson 5B.)

Put in a sunny window and let stand 24 hours.

Cover; pour over each glass melted paraffin or use circular pieces of paper dipped in alcohol, sealing with white of egg; or a tin cover.

Keep in a cool, dry place. Label and date all glasses of jelly.

JAMS

JAMS are usually made with berries or small fruit (pulp, seeds and skin), cooked with an equal quantity of sugar.

GENERAL RULES

Prepare fruit and weigh. Measure an equal quantity of sugar; heat it. Cook the fruit mash with a wooden spoon while cooking, and stir to prevent burning. Cook 30 minutes, or until soft. Add heated sugar and cook 20 minutes, or until thick. Put into heated sterilized jars or glasses, cool and cover as for jellies.

Pickling is preserving in any salt or acid liquor.

GENERAL RULES FOR COOKING DRIED FRUIT

Wash fruit thoroly in several waters. Cover with cold water and soak several hours or over night. Pour the water in which the fruit has been soaked into a saucepan. Heat to boiling point. Add the soaked fruit.

Cook until fruit is soft. If not sweet enough add sugar and cook five minutes longer.

NOTES:

CRANBERRY SAUCE

4 c. cranberries 1½ c. sugar 1 c. boiling water

Pick over and wash berries. Put into a saucepan with the boiling water and sugar, cover, and boil slowly 10 minutes.

Stick cinnamon and quartered apples may be cooked with the cranberries.

CRANBERRY JELLY

4 c. cranberries 2 c. boiling water Sugar

Pick over and wash berries; put into a saucepan with the water and boil 15 minutes, or until all the berries break open. Strain; add as much sugar as juice obtained; boil mixture 10 minutes and pour into moulds; cool and cover. Jellied cranberries may be made by cooking the berries in the sugar and water, pressing them occasionally while cooking until they burst. Pour into moulds and cool.

STEWED APRICOTS

3½ c. dried apricots ½ c. sugar 3 c. boiling water

Follow directions for cooking dried fruit in Lesson 65A.

STEWED PRUNES

3 c. or 1 lb. prunes ½ c. sugar
3 c. boiling water 2 tbsp. lemon juice

Follow directions for cooking dried fruit in Lesson 65A. Add the lemon juice just before taking off the fire.

ORANGE MARMALADE (California Recipe)

Select six large juicy oranges. Wash, cut in quarters, slice quarters as thin as possible: add the juice of two lemons.

To each pound of fruit add 2 pts. of water, let stand uncovered 24 hours, then boil 45 minutes; again let stand uncovered 24 hours. Add pound of sugar to pound of fruit and boil 45 minutes, or until it jells when a little is tried on a cold plate. Pour into sterilized glasses. Label.

ACID AND SALT SUPPLYING FOODS

SALADS

Simple Salads consist of fresh vegetables which require no cooking—as Lettuce, Endive, Cress, etc., served with a dressing. Cooked vegetables, meat, fish, eggs, cheese, or fruits are also used for salads.

A salad must be served cold.

The salad should be prepared daintily, and arranged attractively.

Lettuce and other salad plants should be fresh, crisp and clean.

Wash thoroly leaf by leaf, chill in very cold water, and dry by pressing between clean dry towels.

Do not add the salad dressing to greens until just before serving.

Use a fork in mixing salad ingredients.

Do not leave a metal spoon or fork in the salad ingredients any length of time, a poisonous compound may be formed.

Salad greens are valuable for the water and potash salts they contain.

A meat, fish or egg salad served with a cooked or mayonnaise dressing, contains a great deal of nourishment, and when served should be one of the chief foods of the meal.

Serve a vegetable or a fruit salad with a hearty meal.

FRENCH SALAD DRESSING

½ tsp. salt	⅛ tsp. paprika	4 tbsp. oil
¼ tsp. pepper	2 tbsp. vinegar	

Mix ingredients in order given, stirring vigorously.

To MARINATE means to moisten a salad mixture with French Dressing and then allow it to stand until well seasoned.

MAYONNAISE DRESSING

½ tsp. salt	⅛ tsp. paprika	1 tbsp. vinegar
½ tsp. sugar	Yolk 1 egg	¾ to 1 c. olive oil
	1 tbsp. lemon juice	

Mix dry ingredients; add yolk. When well mixed, add ½ tsp. vinegar. Add oil gradually, at first drop by drop, and stirring constantly. When very thick, add a few drops of vinegar or lemon juice, and continue to beat, adding oil and vinegar alternately, until the mixture is smoothly blended. The dressing should be thick enough to hold its shape. A Dover egg-beater is considered time and labor saving when used in beating the ingredients.

FRUIT SALAD DRESSING

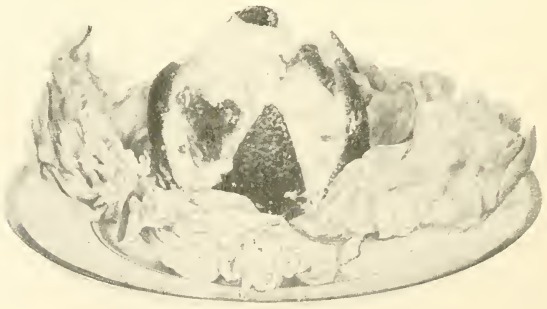
3 yolks	⅓ c. vinegar	Whipped cream
⅓ c. sugar	¼ tsp. salt	

Mix the yolks, sugar, salt and vinegar. Cook in a double boiler until thickened, stirring all the time. Remove from fire; when cool, add the desired quantity of whipped cream.

Prepared mustard may be added to this dressing, using less sugar, it is then suitable for meat or vegetable combinations.

BOILED SALAD DRESSING (See Lesson 16B)

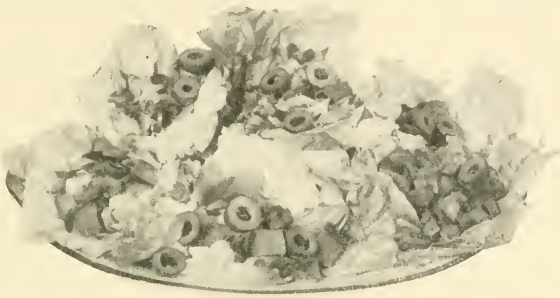
NOTE.—Do not dilute vinegar with water; if too acid, use less of the vinegar.



Fruit Salad

WATER LILY SALAD

Remove shells from hard-cooked eggs. Cut eggs in halves crosswise or lengthwise, cutting in such a way that the edges will be cut into sharp points. Remove yolk, mash and season with salt, pepper and melted butter, or moisten with salad dressings. Refill whites with the yolk mixture, and arrange halves on lettuce leaves. Serve with cooked salad dressing.



MEAT SALAD (Chicken or Veal)

Remove bones and gristle, fat and skin, from cold cooked meat. Cut meat into ½-inch cubes and mix with it an equal amount of celery which has been scraped, chilled and cut in small pieces. Marinate with French Dressing. Add mayonnaise dressing to moisten. Arrange on lettuce leaves; garnish with curled celery.

WALDORF SALAD

Enough salad dressing to moisten 1 c. cubed apple 1 c. celery 1 c. nut meats

Cut slice from tops of green or red apples; scoop out the inside pulp, leaving just enough to hold the skin in place. Fill the shells with the salad mixture and serve on lettuce leaves.

FRUIT SALAD

2 oranges	½ lb. malaga grapes	12 walnuts
3 bananas	4 slices pineapple (cubed)	Salad dressing to moisten

Mix with whipped cream or fruit salad dressing.

May be served in orange cups.

RUSSIAN SALAD

1 c. cold cooked carrots (cubed)	1 c. cold cooked peas
1 c. cold cooked potatoes (cubed	1 c. cold cooked string beans

Marinate with French Dressing. Arrange vegetables in a mound; make four sections. Cover two sections with finely chopped whites of hard-cooked eggs, and the other two with the hard-cooked yolks forced thru a potato ricer or strainer. Garnish with parsley.

TOMATO SALAD

8 medium sized tomatoes 2 c. celery or cucumber cut in cubes 1 c. Mayonnaise dressing

Scald and peel tomatoes; slice off their tops. Scrape out the seeds and a little of the pulp, and fill cavities with the celery or cucumber, mixed with mayonnaise dressing, or fill with shredded pineapple and nuts mixed with mayonnaise dressing. Tomato may be cut to imitate a tiger lily by cutting into sixths almost to the stem end. Serve on lettuce leaves.

BEVERAGES

A Beverage is any drink. All beverages contain a large percentage of water.

Use freshly boiled water for making hot beverages.

Use freshly drawn water for making cold beverages.

Beverages are: 1. Water. 2. Natural fruit juices. 3. Aromatics. Example: Tea, coffee, cocoa, chocolate.

TEA

Tea is a native of China, Japan and North East India.

Tea is made from the leaves of an evergreen plant.

Tea leaves have to be wilted, rolled and dried by artificial heat in order to develop their flavor.

Green Tea is made from freshly picked young leaves, which are prepared quickly by drying them by heat or steam; they are sweated or roasted soon after gathering. Example: Gunpowder, Hyson and Japan.

Black Tea is made from the leaves left in a heap on the ground in the sun, allowing them to ferment, in order to darken and develop a different flavor before being rolled. Example: Oolong, English Breakfast, etc.

Tea contains a stimulating substance called THEIN, and TANNIN.

Do not use a tin teapot, because of the tannin in the tea.

Tea increases perspiration, and helps tired nerves to recover.

People who do severe muscular labor are refreshed by a cup of tea.

COFFEE

Coffee is made from the seeds of the coffee plant grown in Africa, Mocha, Costa Rica, Brazil, Ceylon and Jamaica.

The seeds of the berries of the coffee trees are roasted in order to develop the aroma.

Coffee contains a stimulating substance called CAFFEINE, and TANNIN.

Coffee increases the action of the heart, excites mucous membrane, decreases the action of the skin, and is a powerful antidote.

Tannin is the injurious substance found in tea and coffee. It is extracted by boiling, therefore tea should always be infused and never boiled or allowed to steep too long.

Filtered coffee is preferable to boiled coffee. Children and young people who have not stopped growing should not drink tea or coffee.

Tea and Coffee should never be taken on an empty stomach unless for medicinal purposes.

COCOA AND CHOCOLATE

Cocoa and Chocolate are prepared from the seeds of the cocoa beans dried and roasted.

Cocoa Beans contain so much fat that when ground they become not powder but paste. This paste forms **Chocolate.**

Cocoa is made by grinding the Cocoa Beans, extracting the oil, leaving a dry powder.

Chocolate and Cocoa are a food as well as a stimulant. They contain theobromine, a substance similar to caffeine.

NOTES:

TEA

To Make Tea. Allow one teaspoonful of tea to each cup of boiling water. Scald the teapot with boiling water, put in the tea, pour on the boiling water, and let it stand covered from three to five minutes.

COFFEE

To Make Filtered Coffee, allow 1 tbsp. of pulverized coffee to 1 c. boiling water. Scald the coffee pot. Put coffee in strainer; strainer in coffee pot; put on the range. Add gradually the boiling water and allow it to filter. Cover between additions of water. If desired stronger, refilter. This is considered the most economical way of preparing coffee.

BOILED COFFEE

⅔ c. coffee ½ c. cold water 1 egg 6 c. boiling water

Scald graniteware coffee pot. Wash the egg, break, and beat it slightly. Dilute with one-half of the cold water; add crushed shell to it and mix with coffee. Turn into coffee pot, pour on boiling water and stir thoroly. Place on fire and boil 3 minutes. If not boiled, coffee is cloudy; if boiled too long too much tannic acid is developed. The spout of the coffee pot should be stuffed with soft paper to prevent the escape of fragrant aroma. Add remaining half of cold water, let it stand 10 minutes on back of range.

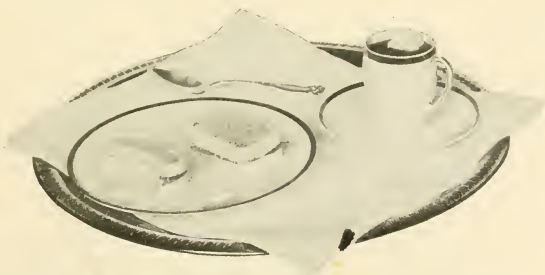
Left-over coffee may be used if poured off the grounds immediately. Keep it in a cool place until needed. Never reheat coffee on the grounds.

Boiling coffee in large bags is considered the least economical method of preparing coffee, as more coffee must be used in proportion to the quantity of water.

BREAKFAST COCOA

2 c. scalded milk Few grains salt 2 to 4 tbsp. sugar
2 c. boiling water 2 tbsp. prepared cocoa

Mix dry ingredients in saucepan; stir in boiling water gradually and boil 5 minutes. Add milk and cook 5 minutes longer, or until smooth and free from lumps. Mill with a Dover egg-beater to prevent albuminous skin from forming on top.



A cup of chocolate with sandwiches. This combination makes a wholesome and nutritious lunch.

CHOCOLATE

1½ sqrs. Baker's Chocolate Few grains salt 4 c. milk
4 tbsp. sugar 1 c. boiling water

Scald milk; melt chocolate in small saucepan placed over hot water; add sugar; salt, and gradually boiling water while stirring; when smooth, place on range, and boil one minute; add to scalded milk. Mill by beating with Dover egg-beater, and serve.

INVALID COOKERY

The selection, preparation and serving of food for invalids is of greatest importance.

The food should be suited to the digestive powers of the patient, should be perfectly cooked and served attractively in small quantities. In serious illness consult the physician in attendance, and follow his directions exactly. Death may result from giving forbidden articles of food.

All food is changed into liquid during the process of digestion, before it can be absorbed into the blood. Liquid food carefully selected can therefore be digested with the smallest amount of exertion to the body.

Diets are classed as { Liquid / Semi-solid or soft diet / Solid or full diet }

Liquids.—Stimulants are boiled beef tea, broths, coffee, tea.

Nutrients.—Milk, frozen cream, barley water, rice water, oatmeal water, toast water, albumenized milk, albumenized fruit waters, egg-nogs, chocolate, cocoa, bottled beef tea (Lesson 41A), etc.

Refreshing Beverages are lemonade, orangeade, grape juice and water, currant, tamarind and apple water, etc.

The fruit waters are cooling, refreshing and mildly stimulating, and are given to fever patients.

Fruits are valuable for the salts and acids they contain.

Semi-Solids.—Gruels—arrow-root, farina, oatmeal, cracker, Indian meal. Mushes—cooked cereals. Cream soups (Lesson 11B). Oyster stew (Lesson 51B). Cooked eggs (Lesson 35B). Custards (Lesson 36B). Soft toast (Lesson 7B). Gelatine desserts (Lessons 52B and 53B), etc.

Solids.—Raw Oysters—Chicken (Lesson 45B). Broiled chops (Lesson 42B). Baked potato (Lesson 19B). Hot sandwiches (Lesson 8B). Foods that are nutritious and easily digestible are included in the full diet.

Gruels and the various breakfast foods, thoroly cooked, with or without fruit, are valuable.

Corn and oatmeal gruels should not be given in inflammatory cases, as they are heat-producing.

The starch in arrow-root is more easily digested than any other form of starch.

Cooked eggs, dropped eggs on toast, scrambled, omelets, etc., soft custards, baked custards, and the fruit whips made with white of egg, and sweetened fruit, are all nutrients and easily digested.

Frozen cream and cream whips with gelatine are very valuable dishes in the sick room, as they are both highly nutritious and palatable.

The cream soups, oyster stew, etc., with toast or crackers, make a desirable lunch for a convalescent.

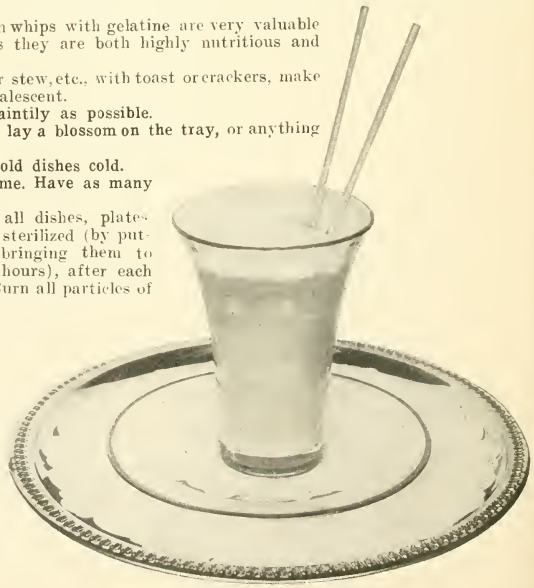
Set the tray just as daintily as possible.

Use the best china, etc., lay a blossom on the tray, or anything to please the eye.

Serve hot dishes hot; cold dishes cold.

Serve one course at a time. Have as many surprises as possible.

In contagious diseases all dishes, plates, knives, forks, etc., should be sterilized (by putting them in cold water, bringing them to boiling point and boiling 2 hours), after each time they have been used. Burn all particles of food left over.



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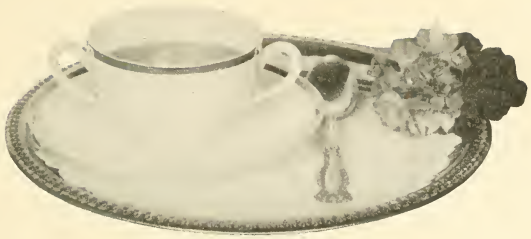


LIQUIDS—BARLEY WATER

1½ tbsp. pearl barley
1 qt. cold water
Sugar to taste
2 tbsp. lemon juice or more

Wash then soak BARLEY in cold water over night. Boil in the same water several hours. Strain, add lemon juice and sugar. Strawberry, raspberry or grape juice may be added. Soothing and refreshing. Valuable in bronchial or pulmonary trouble.

RICE WATER

1 tbsp. rice 2 c. water Salt Milk, cream or fruit juice

Heat water to boiling point; wash rice; add rice and salt to boiling water, cook until rice is soft, strain, add cream or fruit juice to the water.

BARLEY and Rice waters are known as astringents. If stick cinnamon be cooked with the rice or barley, it will help to produce a laxative condition.

TOAST WATER

EQUAL measures of stale bread, toasted, and boiling water. Let stand one hour. Season, strain, serve hot or cold. Given in extreme cases of nausea.

ORANGE ALBUMEN

White 1 egg
Juice 1 sour orange
3 tbsp. crushed ice
Sugar to taste

Beat white or egg slightly, add orange juice and crushed ice. Mix in a glass and sweeten to taste. Lemon may be used in place of the orange.

MILK ALBUMEN

White 1 egg ½ c milk Few grains salt

Beat white slightly; add milk and salt.

EGG NOGG

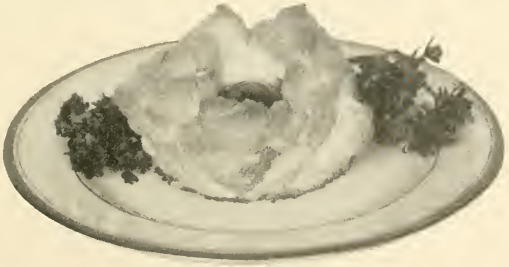
1 egg
¾ tbsp. sugar
⅔ c. milk
Few grs. salt
1 tbsp. vanilla or other flavoring

Beat egg slightly, add sugar, salt and flavoring, and then add the milk gradually. Strain and serve.

OATMEAL GRUEL

½ c. oatmeal (rolled oats) 1½ qts. water ½ c. cream 1 tsp. salt

Cook oatmeal in the water and salt for three hours or more. Strain. Add cream. Nourishing and fattening. Valuable in anaemic and tubercular cases.



Egg in Nest

DIETARY STUDIES

The calorie is the unit of heat or energy of the human body. It is the basis for determining the fuel value of foods.

STANDARD FOR PERSON ENGAGED IN MODERATE MUSCULAR WORK

As given by C. F. Langworthy, of the U. S. Department of Agriculture

	Calories
Protein, 105 grams (0.231 lb.) to yield	419
Fats, 125 grams (0.275 lb.) to yield	1,100
Carbohydrates, 495 grams (1.09 lb.) to yield	1,981
Total	3,500

This standard is intended to represent the food actually eaten and does not include waste of any kind.

STANDARDS FOR FOOD AS PURCHASED

	Calories
Protein, 115 grams (0.253 lb.) yielding	460
Fats, 125 grams (0.275 lb.) yielding	1,100
Carbohydrates, 560 grams (1.235 lb.) yielding	2,240
Total	3,800

Factors used in calculating meals consumed in dietary studies are as follows:

Man at hard muscular work requires 1.2 the food of a man at moderately active muscular work.

Man with light muscular work and boy 15 to 16 years old requires 0.9 the food of a man at moderately active muscular work.

Man at sedentary occupation, woman at moderately active work, boy 13 to 14 and girl 15 to 16 years old require 0.8 the food of a man at moderately active muscular work.

Woman at light work, boy 12, and girl 13 to 14 years old require 0.7 the food of a man at moderately active muscular work.

Boy 10 to 11 and girl 10 to 12 years old require 0.6 the food of a man at moderately active muscular work.

Child 6 to 9 years old requires 0.5 the food of a man at moderately active muscular work.

Child 2 to 5 years old requires 0.4 the food of a man at moderately active muscular work.

Child under 2 years old requires 0.3 the food of a man at moderately active muscular work.

With this information, and aided by the tables published by the U. S. Government, we can easily make an estimate of the nutrients contained in each meal and arrange the day's menu so it will conform with the required standard. When calculations are necessary, the following table may be of assistance:

1 pound equals 453.54 grams.

1 gram of protein yields about 4 calories.

1 gram of fat yields about 8.90 calories.

1 gram of carbohydrates yields 4 calories.

U. S. Department of Agriculture.

References Farmers' Bulletin No. 142.

MENU IX.—For family eqivalent to 4 men at moderate muscular work

FOOD MATERIALS	Weight	Cost	Protein	Fuel Value
Breakfast	Lbs. Oz.	Cents	Pounds	Calories
Corn meal, in mush and cake	0 5	1	0.022	414
Milk	6	1	.012	64
Sugar	2	½	.....	232
Toast	10	2½	.059	753
Butter (24 cents per pound)	2	3	.....	434
Total		8	.093	1,894

Dinner	Weight	Cost	Protein	Fuel Value
	lbs. oz.	Cts.	Lbs.	Clrs.
Beef roll (for roasting)	3 0	15	.417	2,280
Potatoes	1 8	2	.026	488
Beets	8	1	.007	83
Bread	10	2½	.059	753
Butter	2	3	.....	434
Total		23½	.509	4,040

Supper	Weight	Cost	Protein	Fuel Value
	Lbs. Oz.	Cents	Pounds	Calories
Beans, baked	2 0	6	.446	3,180
Pork	12	6	.012	2,556
Potatoes,- fried	1 8	2	.026	488
Lard	2	1	.....	537
Bread	10	2½	.059	753
Butter	2	3	.....	434
Total		20½	.543	7,948
Total per day, Breakfast, Dinner, and Supper		20½	1.145	13,885
Total for one man, Breakfast, Dinner, and Supper		13	.285	3,471

MENU X.—For family equivalent to 4 men at moderate muscular work

FOOD MATERIALS	Weight	Cost	Protein	Fuel Value
Breakfast	Lbs. Oz.	Cents	Pounds	Calories
Oatmeal	0 6	2	0.059	697
Skim milk, 1 pint	1 0	1½	.034	170
Sugar	2	½	.....	232
Bread (homemade)	1 0	3	.095	1,205
Sausage	10	6	.080	1,358
Butter (24 cents per pound)	1	1½	.....	217
Total		14½	.268	3,879
Dinner				
Beef flank, stew	2 8	15	.430	2,988
Potatoes (60 cents per bushel)	3 0	3	.054	975
Cabbage	12	1	.013	105
Corn-meal pudding:				
Corn meal	4	½	.022	414
Skim milk, 1 quart	2 0	3	.068	340
Molasses	12	1	.020	987
Total		22½	.604	5,809
Supper				
Beef, warmed in gravy	1 8	3	.086	598
Hot Biscuit	2 0	6	.340	2,600
Butter	2	3	.....	434
Milk, 1 quart	2 0	6	.033	325
Total		18	.259	3,957
Total per day		55	1.134	3,645
Total for one man		14	.285	3,411

U. S. Department of Agriculture.

Average Composition of American Food Products

Food materials (as purchased).

Animal Food	Refuse Per cent	Water Per cent	Protein Per cent	Fat Per cent	Carbohydrates Per cent	Ash Per cent	Fuel Value Per lb. Calories
BEEF, Fresh:							
Chuck, including shoulder	17.3	54.0	15.8	12.5		0.7	791
Chuck ribs	19.1	53.8	15.3	11.1		.8	726
Flank	5.5	56.1	18.6	19.9		.8	1,141
Loin	13.3	52.9	16.4	16.9		.9	980
Porterhouse steak	12.7	52.4	19.1	17.9		.8	1,069
Sirloin steak	12.8	54.0	16.5	16.1		.9	949
Ribs	20.1	45.3	14.4	20.0		.7	1,069
Round	8.5	62.5	19.2	9.2		1.0	720
BEEF, Corned, Canned, Pickled and Dried:							
Corned beef	8.4	49.2	14.3	23.8		4.6	1,220
Tongue, pickled	6.0	58.9	11.9	19.2		4.3	991
Dried, Salted and Smoked	4.7	53.7	26.4	6.9		8.9	757
VEAL:							
Breast	23.3	52.5	15.7	8.2		.8	616
Leg	11.7	63.4	18.3	5.8		1.0	566
Leg cutlets	3.4	68.3	20.1	7.5		1.0	667
MUTTON:							
Flank	9.9	39.0	13.8	36.9		.6	1,740
Leg, hind	17.7	51.9	15.4	14.5		.8	865
Shoulder	22.1	46.8	13.7	17.1		.7	939
LAMB:							
Breast	19.1	45.5	15.4	19.1		.8	1,050
Leg, hind	13.8	50.3	16.0	19.7		.9	1,086
PORK, Fresh:							
Flank	18.0	48.5	15.1	18.6		.7	1,025
Ham	10.3	45.1	14.3	29.7		.8	1,458
Loin chops	19.3	40.8	13.2	26.0		.8	1,289
Shoulder	12.4	44.9	12.0	29.8		.7	1,421
Tenderloin		66.5	18.9	13.0		1.0	868
PORK, Salted, Cured and Pickled:							
Ham, smoked	12.2	35.8	14.5	33.2		4.2	1,603
Shoulder, smoked	18.9	30.7	12.6	33.0		5.0	1,561
Salt pork		7.9	1.9	86.2		3.9	3,514
Bacon, smoked	8.7	18.4	9.5	59.4		4.5	2,570
SAUSAGE:							
Bologna	3.3	55.2	18.2	19.7		3.8	1,126
Farmer	3.9	22.2	27.9	40.4		7.3	2,100
Frankfort		57.2	19.6	18.6	1.1	3.4	1,126
SOUPS:							
Celery, cream of		88.6	2.1	2.8	5.0	1.5	242
Beef		92.9	4.4	.4	1.1	1.2	116
Meat stew		84.5	4.6	4.3	5.5	1.1	357
Tomato		90.0	1.8	1.1	5.6	1.5	179
POULTRY:							
Chicken, broilers	41.6	43.7	12.8	1.4		.7	289
Fowls	25.9	47.1	13.7	12.3		.7	745
Goose	17.6	38.5	13.4	29.8		.7	1,446
Turkey	22.7	42.4	16.1	18.4		.8	1,035
FISH:							
Cod, dressed	29.9	58.5	11.1	.2		.8	209
Halibut, steaks or sections	17.7	61.9	15.3	4.4		.9	455
Mackerel, whole	44.7	40.4	10.2	4.2		.7	355
Perch, yellow, dressed	35.1	50.7	12.8	.7		.9	260
Shad, whole	50.1	35.2	9.4	4.8		.7	364
Shad, roe		71.2	20.9	3.8	2.6	1.5	580
FISH, Salt: Cod	24.9	40.2	16.0	.4		18.5	306
FISH, Canned:							
Salmon	14.2	56.8	19.5	7.5		2.0	657
Sardines	5.0	53.6	23.7	12.1		5.3	918
SHELLFISH:							
Oysters, "Solids"		88.3	6.0	1.3	3.3	1.1	221
Clams		80.8	10.6	1.1	5.2	2.3	331
Crabs	52.4	36.7	7.9	.9	.6	1.5	191
Lobsters	61.7	30.7	5.9	.7	.2	.8	139

From the U. S. Department of Agriculture.

NOTES:

MENU IV.—For family equivalent to 4 men at moderate muscular work

FOOD MATERIALS	Weight	Cost	Protein	Fuel Value
Breakfast	Lbs. Oz.	Cents	Pounds	Calories
Baked apples	2 0	2	0 008	510
Boiled hominy	8		.041	823
Milk	10	4½	.020	202
Sugar	3			350
Broiled sirloin	10	11	.099	650
Potatoes	8	1	.009	162
Muffins:				
1 egg	4	5	.032	162
2 cups flour	8		.057	820
Butter	2	4		435
Coffee		3½	.010	410
Total		31	.276	4,524
Dinner				
Tomato soup	2 0	6	.036	370
Veal stew, shoulder	2 0	20	.332	1,350
Potatoes	3 0	4½	.054	975
Apple dumpling:				
1 egg	2		.016	81
4 apples	1 8	8	.006	382
½ cup lard	4			1,055
1 cup flour	4		.028	410
Sauce for dumpling:				
Butter	1	3		217
Sugar	4			465
Bread	12	3	.071	904
Butter	1	2		217
Coffee or tea		3½	.010	410
Total		50	.553	6,836
Supper or Lunch				
Dried canned corned beef	8	6	.142	560
Potato croquette	8	1	.009	162
Biscuit	12	4	.070	1,297
Butter	1½	3		325
Oranges, 4	¼ 4	7	.007	400
Skim milk	¼ 6	2	.046	234
Total		23	.274	2,987
Total for day		104	1.103	14,333
Total for one man		26	.275	.3,585

U. S. Department of Agriculture.

Menus for Balanced Meals

MENU I.—For family equivalent to 4 men at moderate muscular work

FOOD MATERIALS	Weight	Cost	Protein	Fuel Value
Breakfast	Lbs. Oz.	Cents	Pounds	Calories
Cereal, oatmeal	0 3		0.029	350
Milk	6	2½	.012	64
Sugar	2			232
Bacon	8	8	.046	1,390
Eggs, 4	8	8	.065	322
Baked potatoes	1 0	1½	.018	325
Buckwheat cakes, prepared buckwheat	8	4	.034	780
Maple syrup	4	3		327
Bread	8	2	.048	603
Butter	1½	3		225
Coffee		3½	.010	410
Total		35½	.262	5,028
Dinner				
Bouillon	1 0	15	.020	45
Roast lamb, leg	1 8	30	.228	1,282
Mashed potatoes	1 0	2	.018	325
Cucumbers	1 0	3	.009	52
Green peas, shelled	1 8	6	.072	382
Macaroni	4	4	.029	410
Cheese	3	3	.049	369
Fruit pudding:				
1 cup flour	4		.028	410
Sugar	4			465
1 egg	2	9	.016	81
½ cup milk	4		.008	81
1 cup fruit	8		.013	817
Foamy sauce for pudding:				
1 egg	2		.016	81
½ cup milk	4	5	.010	102
½ cup sugar	4			465
Bread	6	1½	.036	452
Butter	1	2		217
Tea or coffee		3½	.010	410
Total		84	.562	6,446
Supper or Lunch				
Chicken croquettes:				
Chicken meat	8		.114	250
Flour	1		.107	103
Onions	1	18	.001	13
1 egg	2		.016	81
Bread	2		.012	151
Lettuce	8	3	.005	42
Bread	8	2	.048	603
Butter	1½	3		325
Cake	6	38	.026	619
Berries	1 0	88	.010	175
Chocolate or cocoa, with milk and sugar, cream	1½	5	.030	625
Total		42	.2698 e	2,987
Total per day		161½	1.093	14,461
Total for one man		40	.270	3,615

U. S. Department of Agriculture.

TEST QUESTIONS

COMPANY LUNCHEON

YELLOW COLOR SCHEME

Cream of Veal Soup

Garnished with Yellow Custard

Curled Celery Olives

Meat Croquettes

Buttered Carrots and Peas in Potato Cases Bechamel Sauce

Fruit Salad in Orange Cups

Cheese Straws Salted Almonds

Lemon Pudding

Angel's Food Whipped Cream

Coffee

MENU II

PINK COLOR SCHEME

Crab Meat Cocktail

Cream of Tomato Soup — Zephyrettes

Lamb Chops

Creamed Potatoes — Relish in Lemon Boats

Rolls — Butter Balls

Neufchatel Cheese and Pimento Salad

Salad Rolls

Strawberry Charlotte — Strawberry Sauce

White Cake—Pink Frosting

Coffee

COST OF PREPARING ABOVE MENUS TO SERVE SIX

Materials	Quantity	Cost

INDIVIDUAL RECIPES—SEMESTER IV.

LESSON 55B

1 small piece liver
1 slice bacon
1 tsp. bacon fat
1 1/2 tsp. flour
1/4 c. boiling water

LESSON 56B

DOUGHNUTS I

2 tbsp. sugar
1 tsp. butter
1 1/2 tbsp. beaten egg
2 tbsp. milk
7 tbsp. flour (plus enough to roll) or 1/2 cup scant
2/3 tsp. B. P.
Few grs. cinnamon
Few grs. nutmeg
1/6 tsp. salt

APPLE FRITTERS

1/2 apple
6 tbsp. flour
1/2 tsp. B. P.
3/4 tsp. sugar
Few grs. salt
2 2/3 tbsp. milk
1 tbsp. beaten egg

LESSON 57B

STEAMED BREAD

3 tbsp. graham flour
1/8 tsp. salt
2 tbsp. Indian meal
1/5 tsp. soda
1 tbsp. molasses
3 1/3 tbsp. milk

STEAMED PUDDING

3 tbsp. entire wheat flour
1-16 tsp. soda
1-16 tsp. salt
1 tbsp. molasses
1 tbsp. milk
1 tsp. beaten egg
1/2 tsp. melted butter
2 tbsp. raisins

LESSON 58B

PARKER HOUSE ROLLS

1 tbsp. boiling water
2 tbsp. milk
2 tsp. sugar
1/4 tsp. salt
1 tsp. butter
6 tbsp. flour (plus)
1 yeast cake mixed with 1 tbsp. lukewarm water

LESSON 59B

WHITE BREAD

1 tbsp. scalded milk
2 tbsp. boiling water
1 tsp. butter
1/5 tsp. salt
1/2 tsp. sugar
1 yeast cake mixed with 1 tbsp. lukewarm water
2/3 c. flour (plus)

LESSON 60B

QUICK CAKE

1 tbsp. butter
2 2/3 tbsp. brown sugar
1 tbsp. beaten egg
1 tbsp. milk
3 1/2 tbsp. flour (bread)
1/3 tsp. B. P.
Few grs. cinnamon
Few grs. nutmeg
2 dates cut in pieces

ORANGE CAKE

1 tbsp. butter
3 1/2 tbsp. sugar
2 tsp. beaten egg
1/6 orange rind
2 tbsp. milk
7 tbsp. flour
1/2 tsp. B. P.

CHOCOLATE CAKE

4 tsp. butter
2 2/3 tbsp. sugar
4 tsp. beaten egg
4 tsp. milk
5 tbsp. flour
1/2 tsp. B. P.
1/2 square chocolate (melted)
Few drops vanilla

LESSON 60A

ORANGE FILLING

4 tbsp. sugar
1 tbsp. flour
1/2 beaten egg
Grated rind 1/4 orange
2 tbsp. orange juice
1/4 tsp. lemon juice

ORANGE FROSTING

1 tsp. orange juice
1/3 tsp. lemon juice
Rind 1/2 orange
1/2 yolk of egg
Confectioners' sugar

LESSON 61B

CREAM SPONGE CAKE
1 yolk
4 tbsp. sugar
¾ tbsp. water
1 tsp. cornstarch
4 tbsp. flour
½ tsp. B. P.
Few grs. salt
1 White (beaten)
Few drops lemon or vanilla

ANGEL'S FOOD
1 White (beaten)
⅛ tsp. C. of T.
2 tbsp. sugar
1½ tbsp. flour
Few grs. salt
8 drops vanilla

LESSON 62B

SUGAR COOKIES
½ tbsp. butter
1 tbsp. sugar
½ tbsp. beaten egg
1 tsp. milk
3 tbsp. flour (plus enough to make a dough)
⅛ tsp. B. P.
Few grs. salt
Few grs. nutmeg

PEANUT COOKIES
½ tbsp. butter
1 tbsp. sugar
1 tbsp. beaten egg
2 tbsp. flour
¼ tsp. B. P.
Few grs. salt
1¾ tsp. milk
3 tbsp. finely chopped peanuts
⅛ tsp. lemon juice

BOSTON COOKIES
1 tbsp. butter
½tbsp. sugar
2 tsp. egg
1-15 tsp. soda
⅓ tsp. hot water
3 tbsp. flour
Few grs. salt
1-12 tsp. cinnamon
1 tbsp. chopped nuts
½ tbsp. chopped raisins

RICH COOKIES
2 tsp. sugar 1 tbsp. butter ¼ yolk ½ tsp. cream ¼ cup flour

LESSON 63A

PASTRY
½ c. flour
⅛ tsp. salt
4 tsp. to 2⅔ tbsp. butter
About 1½ tbsp. cold water

LESSON 63B

APPLE FILLING
1 large apple
Few grs. salt
2 tbsp. sugar
¼ tsp. butter
Few grs. cinnamon
¼ tsp. lemon juice
Few gratings lemon rind
Few grs. nutmeg

LEMON FILLING
⅓ c. sugar
1 tbsp. cornstarch
⅓ c. boiling water
⅓ tsp. butter
1 yolk
1½ tbsp. lemon juice
Rind ⅓ lemon

MERINGUE
1 beaten white
1 tbsp. sugar

LESSON 65B

CRANBERRY JELLY
½ c. cranberries
¼ c. boiling water
½ c. sugar

LESSON 64B

ORANGE ICE
6 tbsp. water
3 tbsp. sugar
3 tbsp. orange juice
1 tsp. lemon juice
Grated rind ⅙ orange
Few gratings lemon rind

LESSON 66A

FRUIT SALAD DRESSING
1 yolk
1½ tbsp. sugar
1½ tbsp. vinegar
Few grs. salt
2 tbsp.whipped cream

LESSON 66B

FRUIT SALAD
¼ orange
⅓ banana
3 grapes
¾ slice pineapple

CHOCOLATE
¼ square chocolate
2 tbsp. sugar
3 tbsp. boiling water
⅔ c. milk

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